xTools P2S
Laser Cutter and Engraver

October 2024

The power button is on the back right side of the machine, make sure to twist the red emergency stop button if the machine does not immediately turn on.

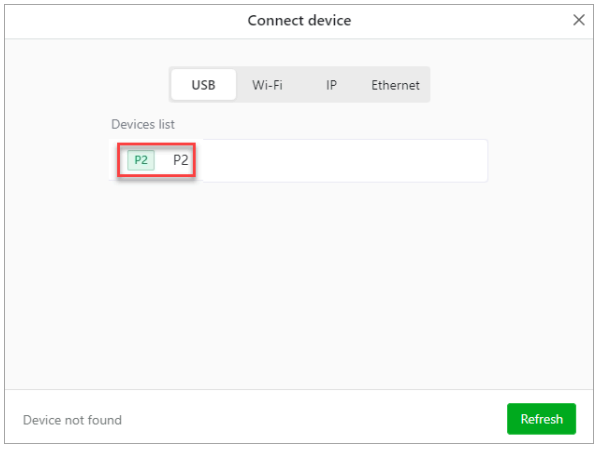
USB connection

1. Use the USB cable to connect your device to your computer, and turn on your device.

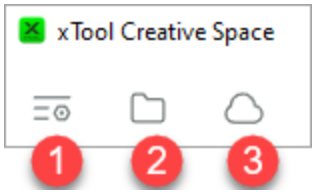
2. Open XCS and click Connect Device.

Wait for XCS to search for available devices.

3. Select your device.

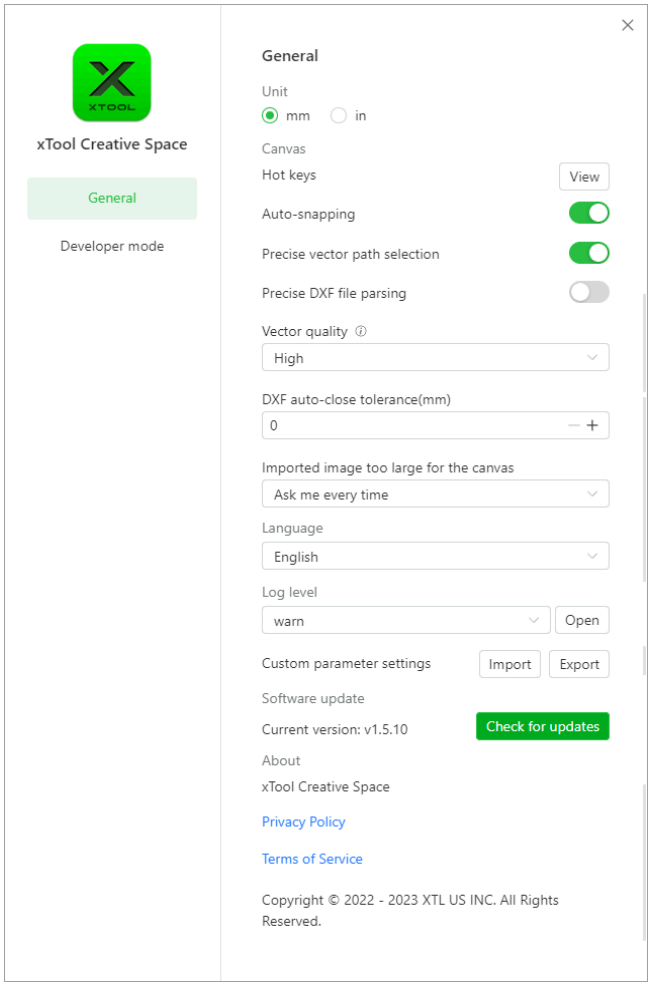


Menus



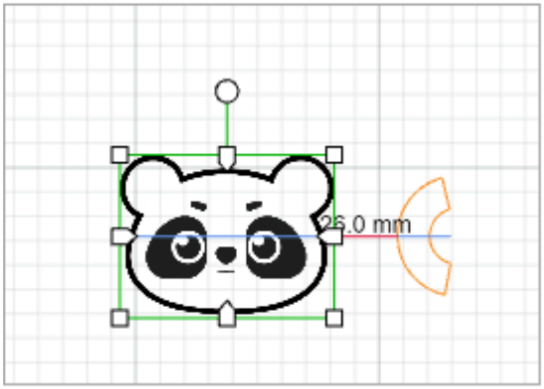
① Settings

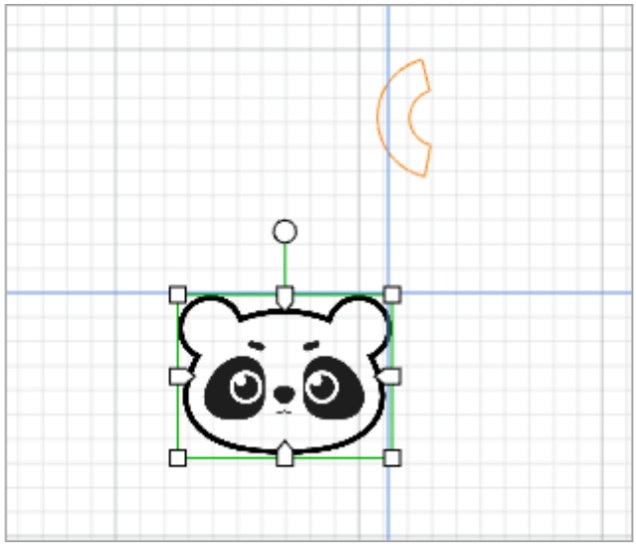
General



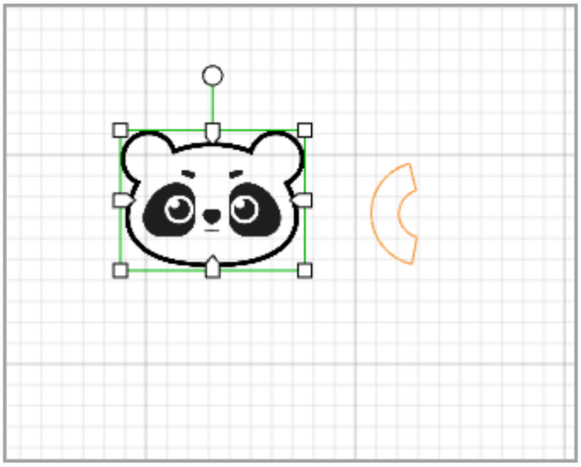
- **Unit: sets the unit for displaying the size and position of a design element**
- **Hot keys: You can click View to view all the hot keys supported by XCS**
- **Auto-snapping: enables or disables the auto-snapping function of the canvas. The function is enabled by default.**

  When it is enabled, guides appear when you move an element on the canvas to help you align the element with another element or the grids.



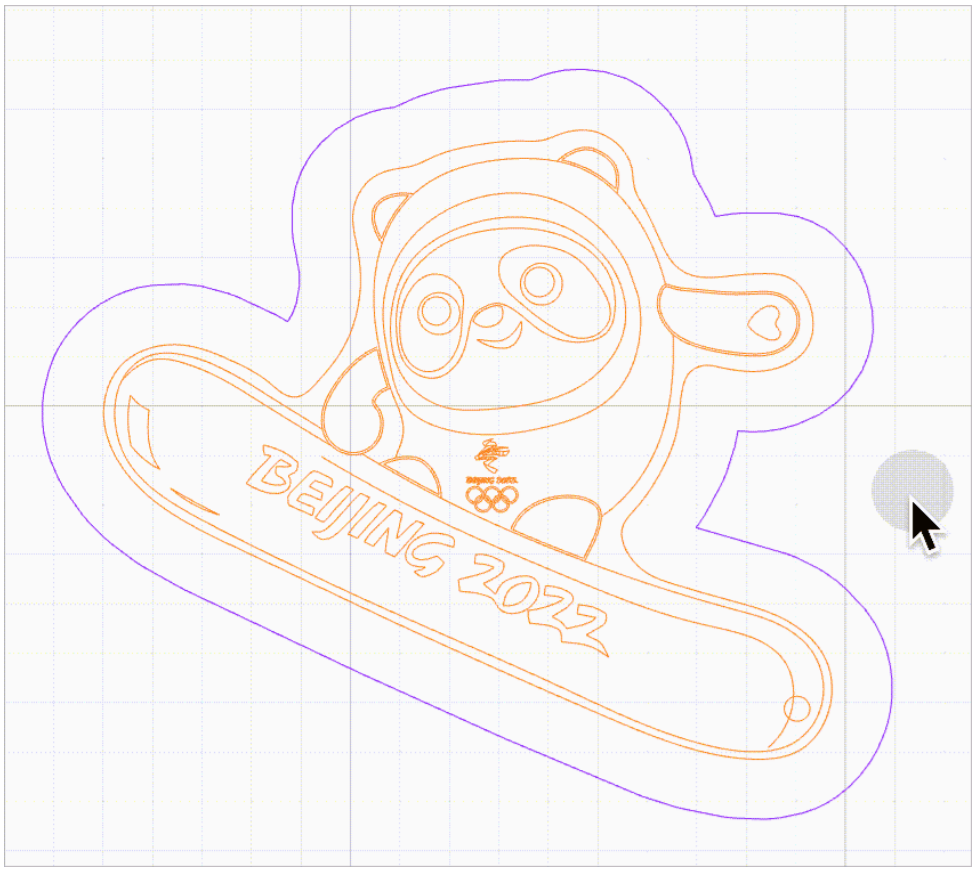


When it is disabled, no guide appears when you move an element.

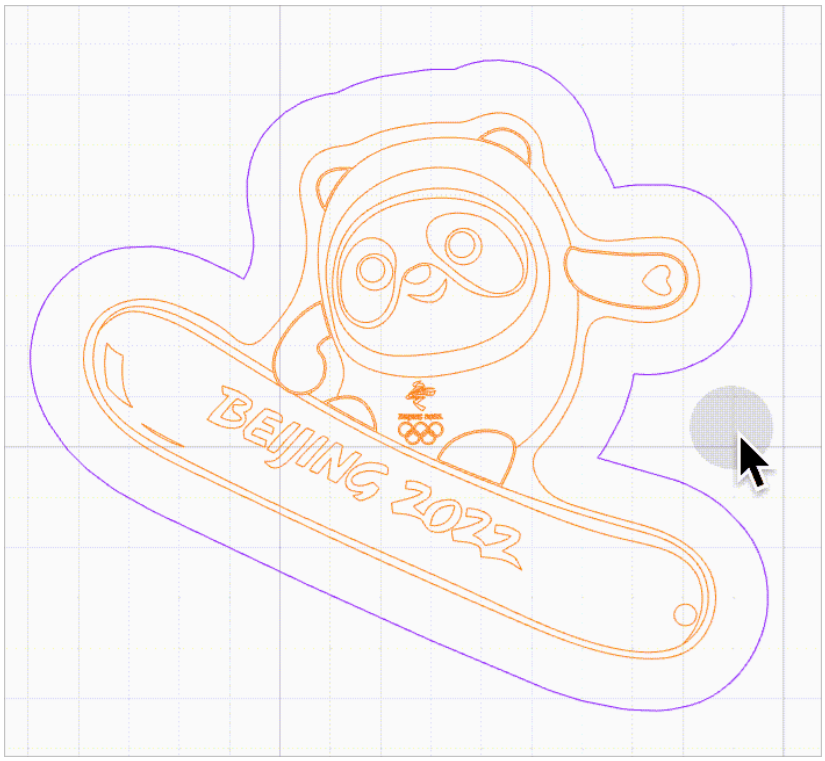


- **Precise vector path selection: By default, this function is disabled.**

  When this function is disabled, you can select a vector path by clicking on the selection box of it. The selection boxes of multiple vector paths, however, may overlap, causing difficulty in selecting the target vector path. As shown in the following figure, it is difficult to select the purple line because it is located within the selection box of another line.



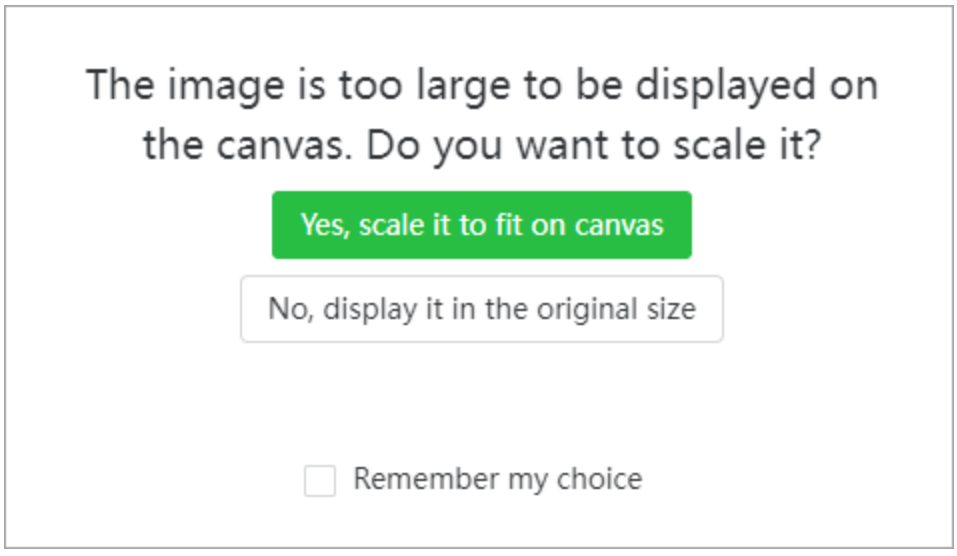
  When this function is enabled, no selection box is provided for vector paths. You need to move the mouse pointer close to a line to select it. In this way, you can select a vector path without selection box interfering. As shown in the following figure, you can select a line by moving the mouse pointer close to it and then clicking.



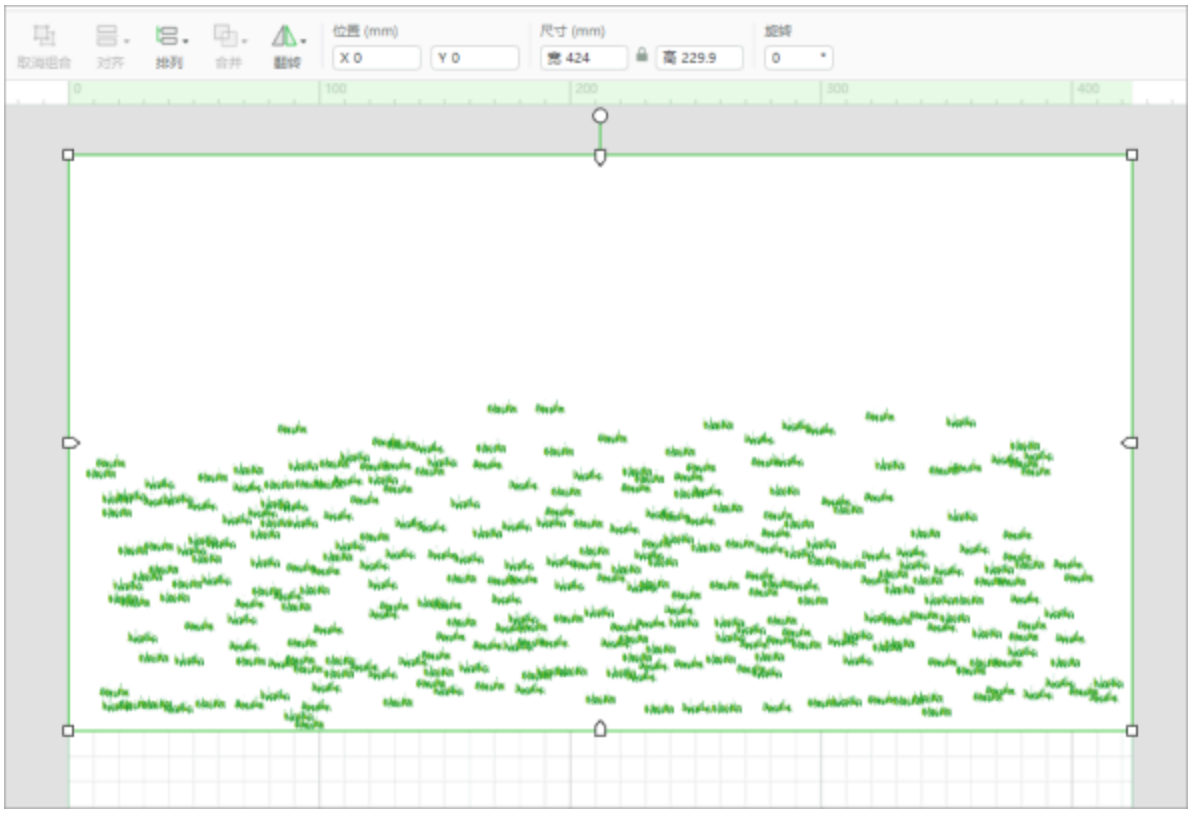
- **Precise DXF file parsing: sets whether to parse DXF files with new algorithms. The new algorithms ensure better parsing results without line missing or deformation and therefore use more PC memory. It is disabled by default. You are advised not to enable this function when your DXF files are properly parsed on XCS.**
- **Vector quality: sets the quality of vector paths, including the following options:**
    - **Optimal (ideal for patterns larger than 20 inches and allows for an average speed)**
    - **High (good for patterns of 10 to 20 inches and allows for a moderately faster speed)**
    - **Medium (good for patterns smaller than 10 inches and allows for a fast speed)**

- **The higher the quality, the lower the speed. If you need to edit complicated vector paths, which may cause software lag, empty screen, or crashes, you can set the quality to Medium to improve the performance of XCS. You don't have to worry much about the processing results. In most of the cases, the differences in processing results between the Medium and High quality are not observable. The processing precision is observably reduced only when you scale a small vector path to a very large one, for example, scale a 2-inch pattern to a 20-inch one.**
- **DXF auto-close tolerance (mm): automatically closes paths, imported from a DXF file, that include split points.**
- **A vector with split points fails to be filled. The default value is 0, and you are recommended to set it to 0.1 for the first time. After setting it, you need to import the DXF again to make it take effect.**
- **Imported image too large for the canvas: sets how to process an imported image that is too large for the canvas, including the following options:**

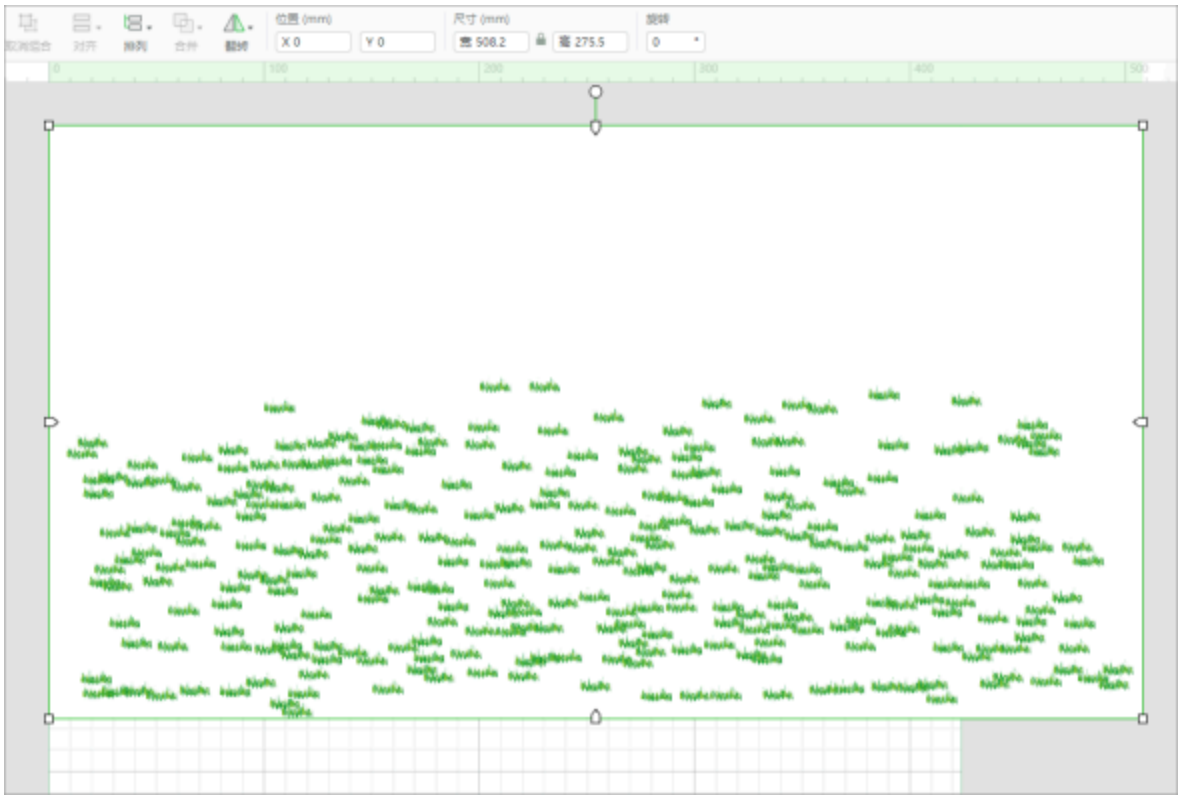
  Ask me every time: XCS asks you every time when you import an image that is too large for the canvas.



Auto-scale it: XCS automatically scales an image that is too large for the canvas when you import it.



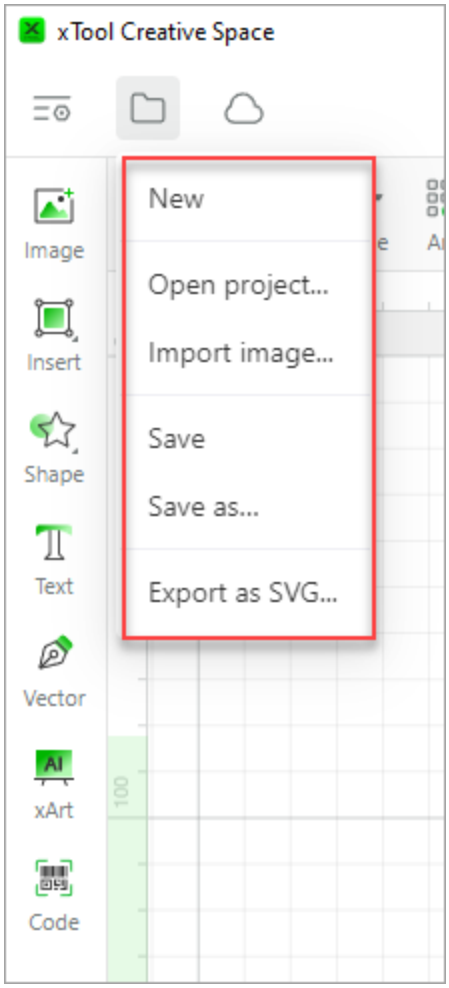
Keep its size: XCS displays an image that is too large for the canvas in the original size when you import it.



- **Language: sets the language of the UIs**
- **Custom parameter settings: allows you to export the processing parameter settings you've saved before or import parameter settings into XCS from a local disk**
- **Software update: displays the software version and checks for later versions**
- **About: displays information about the software**
- **Privacy Policy and Terms of Service: click to view the Privacy Policy and Terms of Service**
- **Developer mode**

  Enter the developer mode to update the firmware of a machine forcibly. Currently, the function is available only for xTool D1 and xTool D1 Pro.

② File

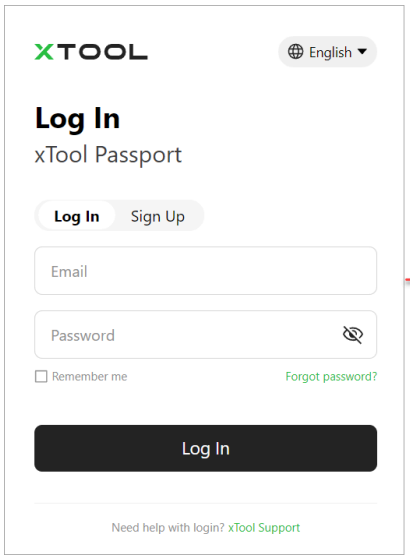


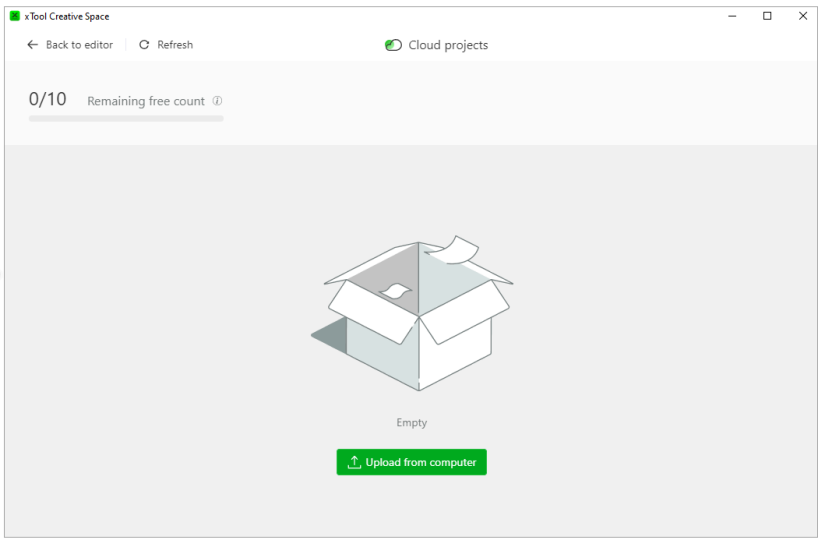
- **New: creates a new project file**
- **Open project...: opens a local project file, supporting only *.xcs* files**
- **Import image...: imports an image file. Currently, XCS supports the importing of only JPG, JPEG, GIF, PNG, BMP, SVG, DXF, and WEBP files.**
- **Save: saves all the changes to the project**
- **Save as: saves the project to another file**
- **Export as SVG...: saves the content on the canvas as an SVG file**

If XCS exits due to exceptions and the project has not been saved, you can decide whether to recover the project file or not when you open XCS the next time.

③ Cloud projects

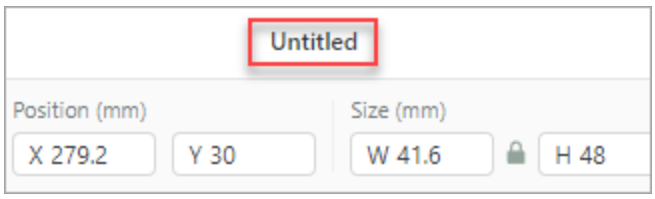
To use cloud projects, you need to log in to xTool Passport.



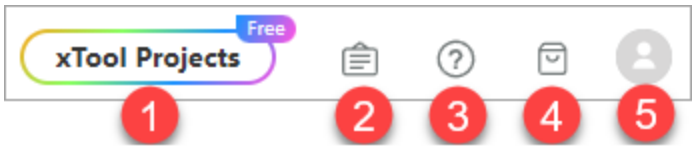


Project name

It displays the name of the project, and you can double-click it to enter a project name.



Links



- **xTool Projects: links to the example project center, where you can find various example projects by category and start or participate in dicussions**
- **Announcement: links to the announcement window of XCS, where you can find the latest announcement released**
- **Support: links to the xTool support website, where you can find online help for xTool products**
- **Shop: links to the xTool online store, where you can purchase xTool products, accessories, and materials**
- **Account center: links to your account center. You need to log in before entering your account center.**

Vertical toolbar

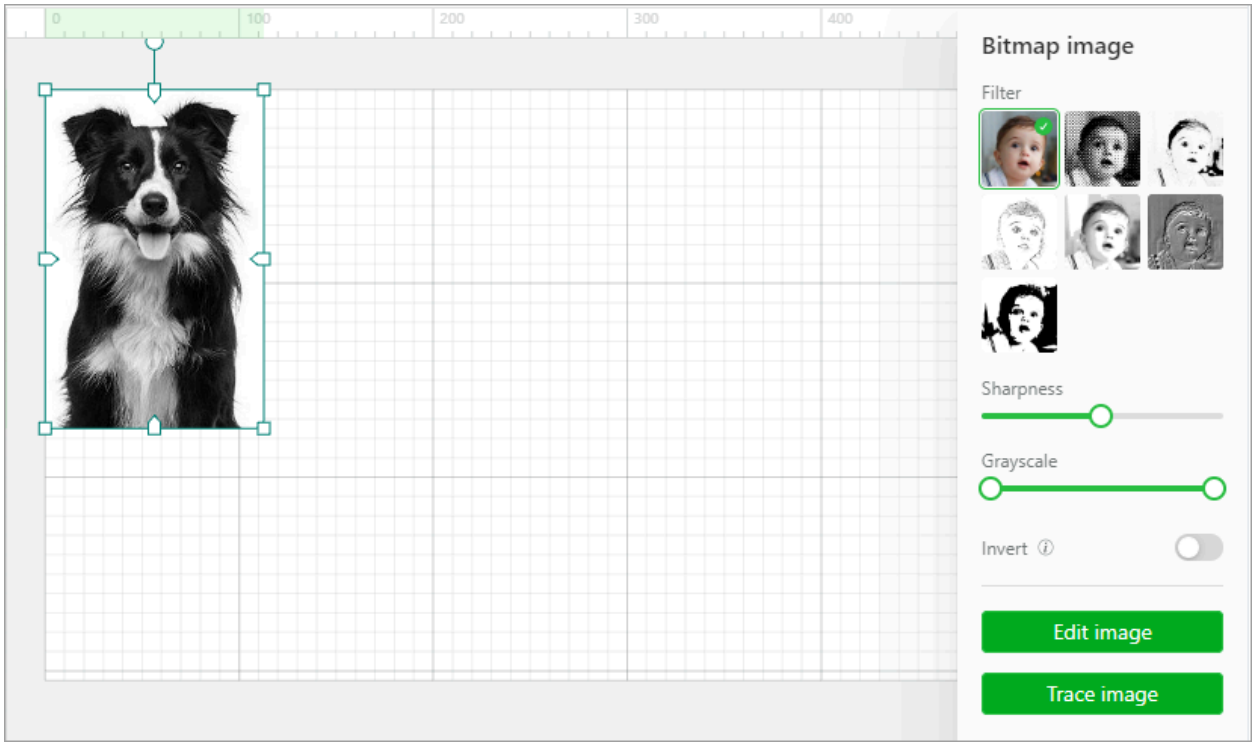
- **Image: click to import an image**
- **Insert: click and select to draw a basic shape**
- **Shape: click to insert a shape**
- **Text: click to insert a text**
- **Vector: click to draw a vector path**
- **xArt: click to enter your prompt or upload an image to generate a new image**
- **Code: click to enter a character string to generate a QR code or barcode**
- **Select: click to select one or more elements**
- **Hand: click to move the canvas by dragging it**

Image

Image: click to import an image. Currently, XCS supports the importing of only JPG, JPEG, GIF, PNG, BMP, SVG, DXF, and WEBP files.

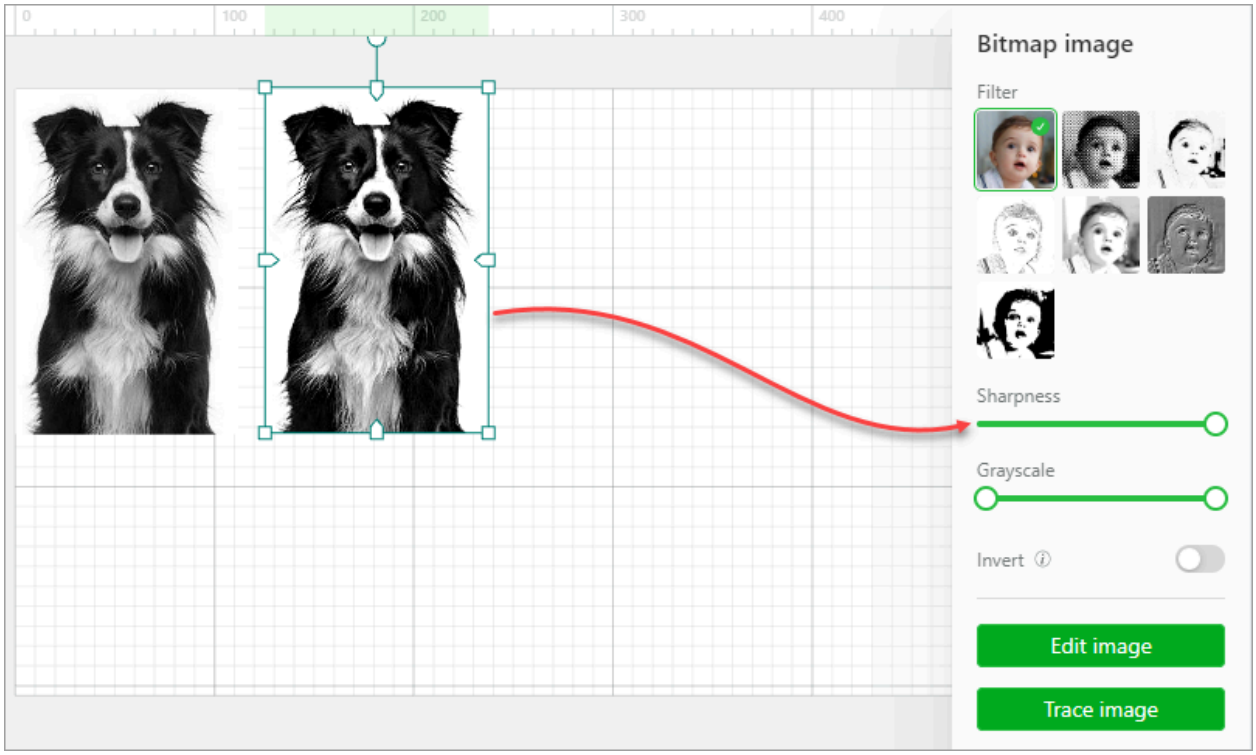
Note: Currently, text objects can't be properly parsed on XCS. If you are to import an SVG file including texts, please convert the texts into paths and then import the SVG file into XCS, so that the SVG image can be properly processed.

If you import a bitmap image, you can set it by using the image setting panel on the right after importing it.

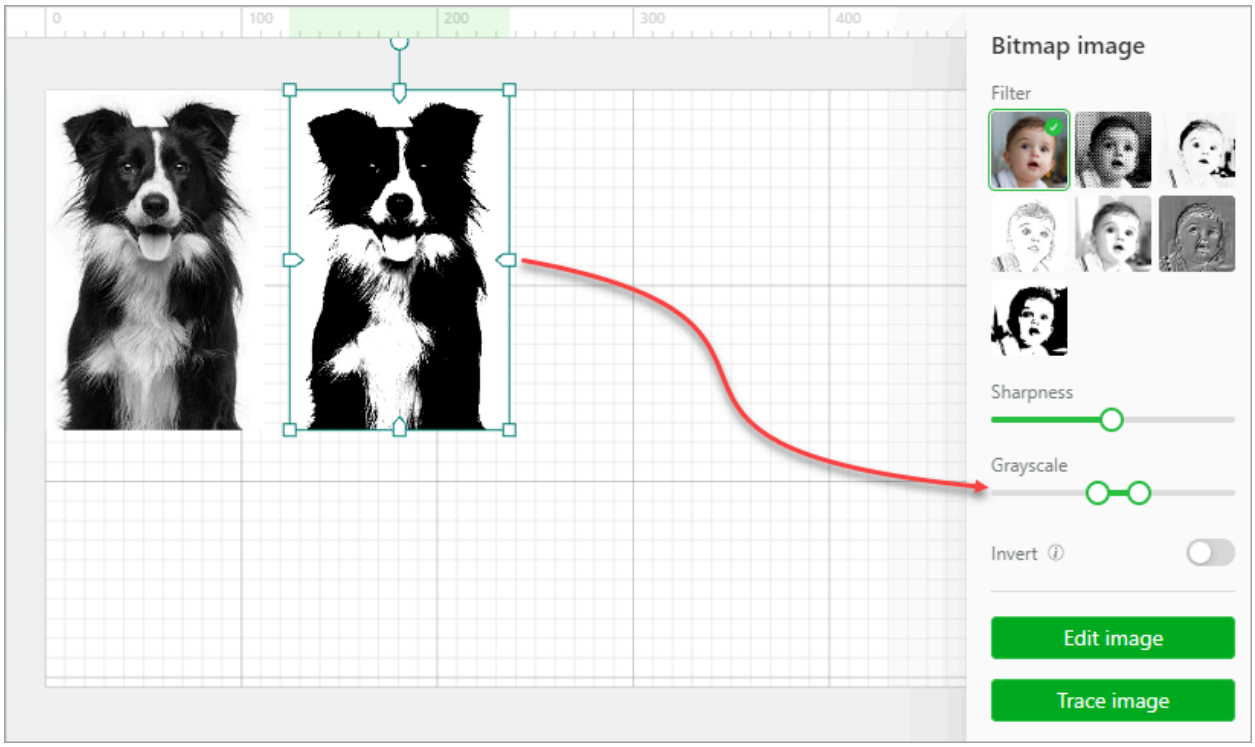


Filter: You can add a filter for your image. The following options are provided: original, grid, sketch, comic 1, comic 2, embossment, and black-and-white. For embossment, you can set the strength.

Sharpness: With other settings unchanged, sharpness is related to the clarity of detail in an image.

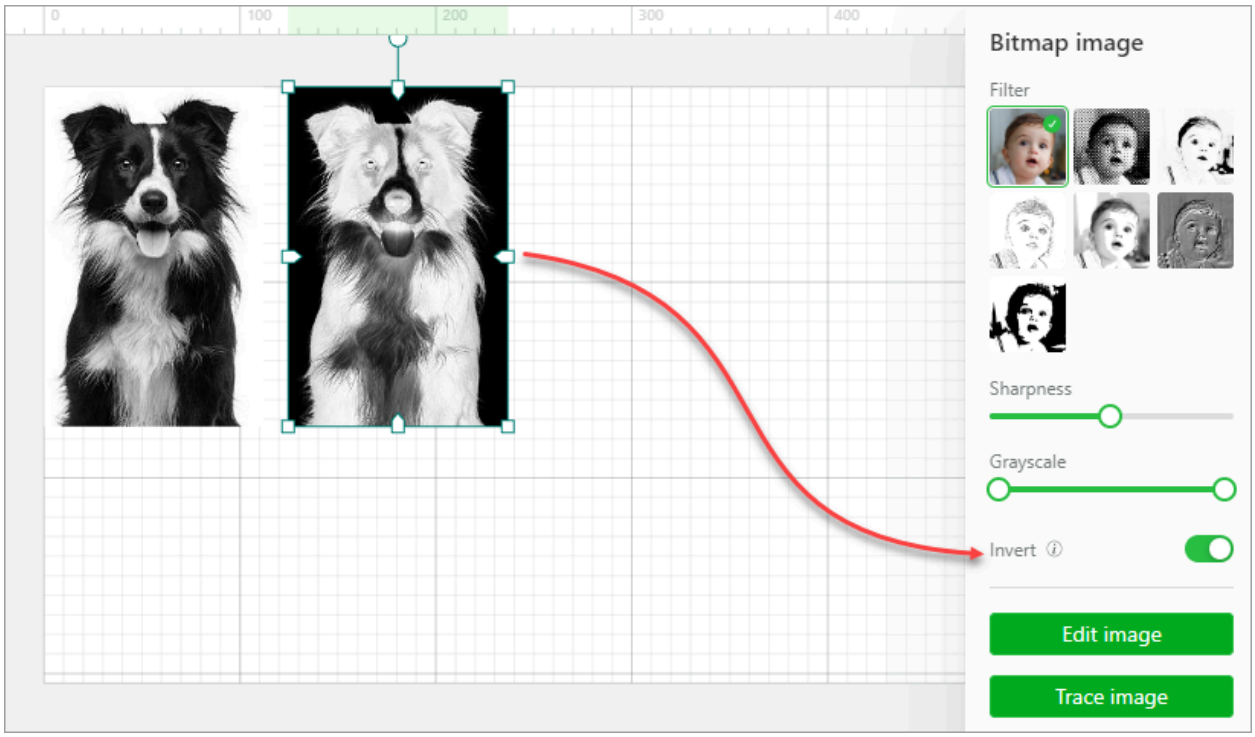


Grayscale: The grayscale is related to the contrast of light and shade. Slide the block on the left to the middle to enhance the shade. Slide the block on the right to the middle to enhance the light.

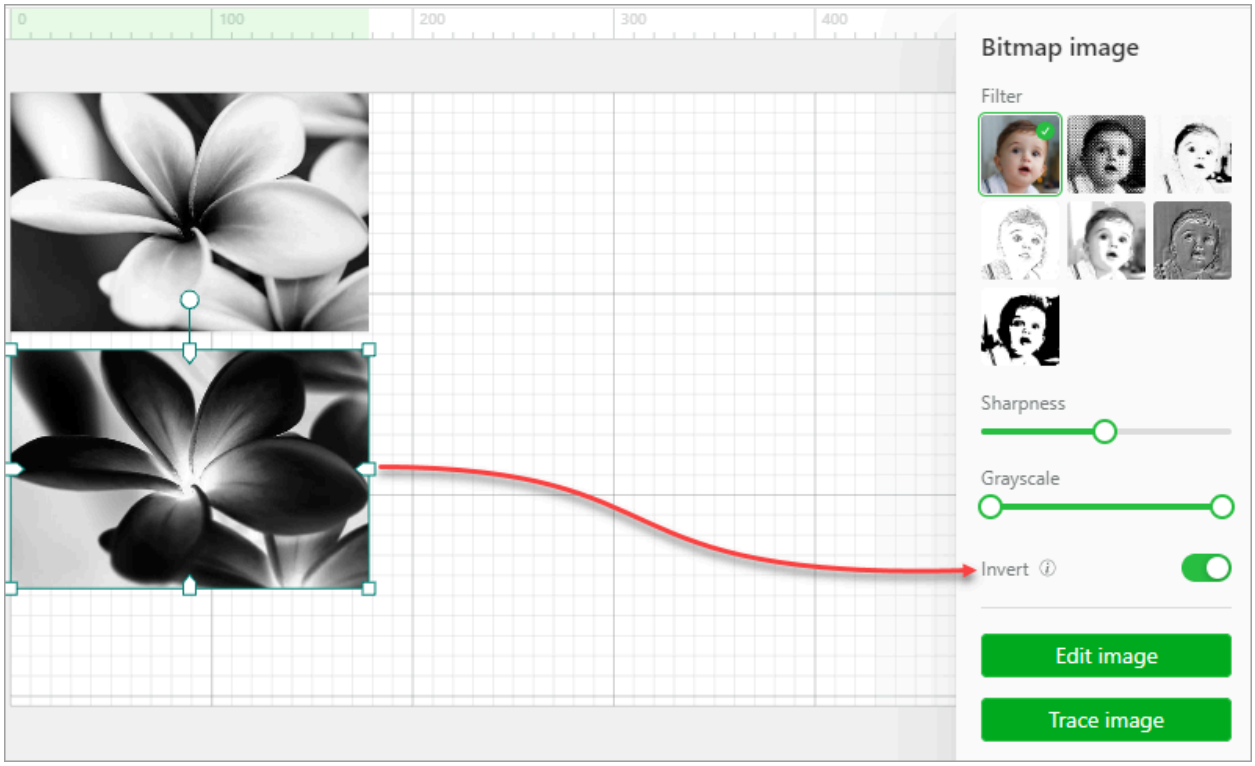


Invert: You can invert the colors of a bitmap image. This function can be useful for the processing of some dark materials, such as engraving bitmap images on transparent or translucent acrylic, black slates, ruber, and mirrors. The engraving results can be improved by using this function. XCS supports color inverting of black-and-white, grayscale, and color bitmap images, as described in the following:

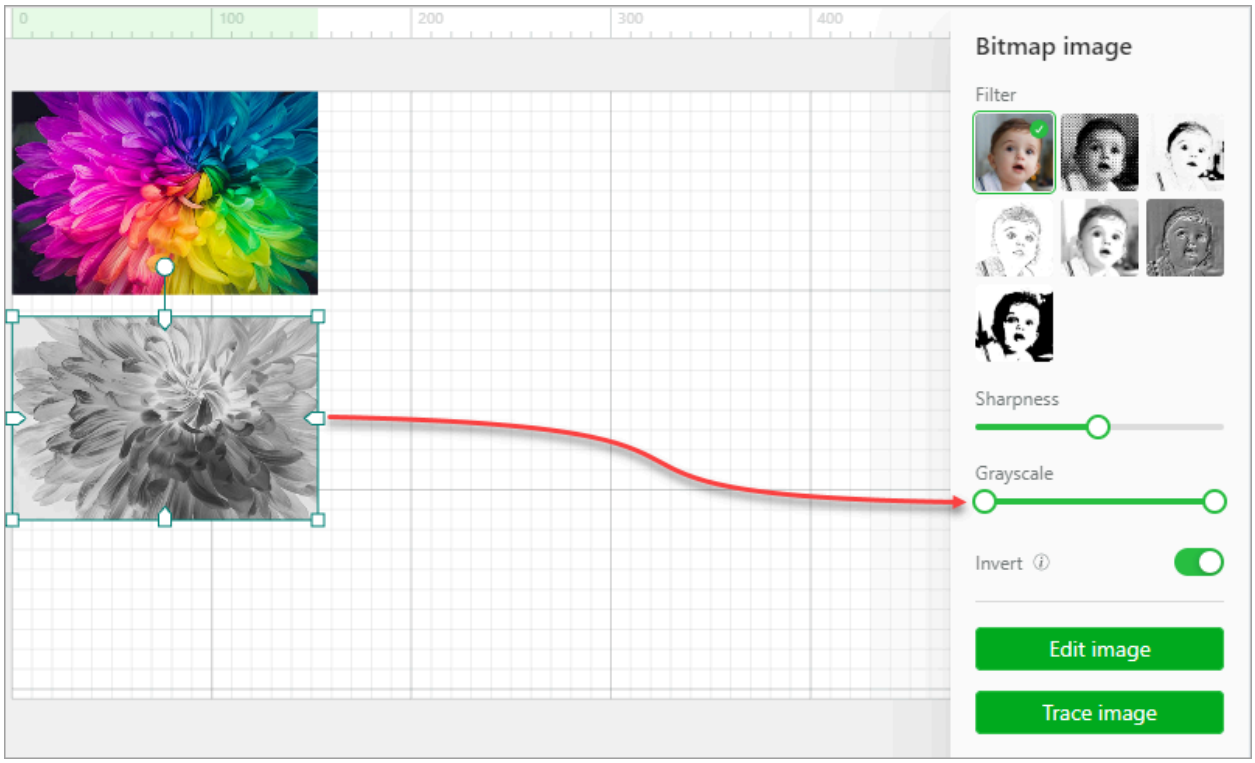
Black-and-white images: White pixels are inverted into black ones, and black ones are inverted into white ones.



Grayscale images: Light pixels are inverted into dark ones, and dark ones are inverted into light ones.

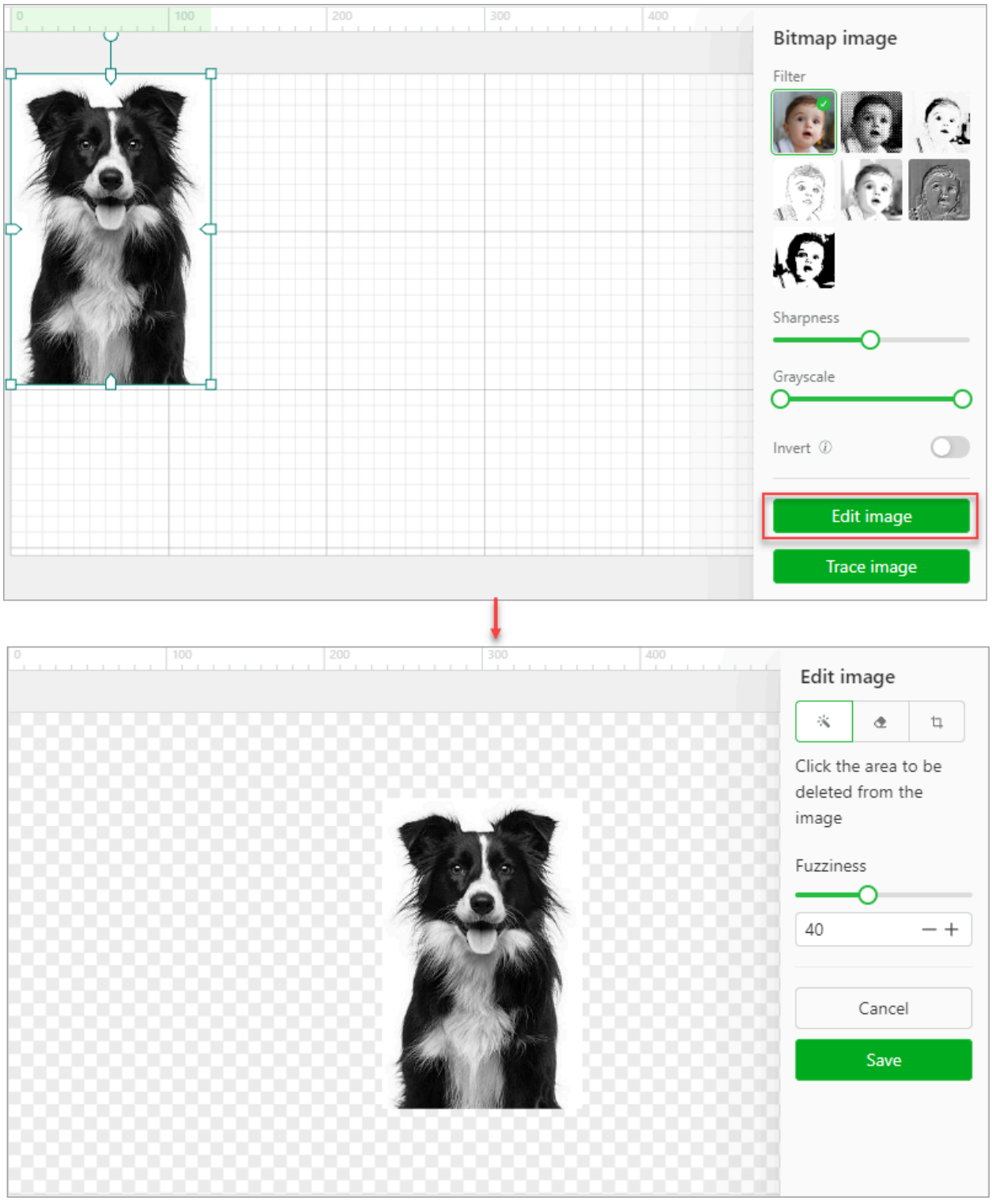


Color images: A color image is converted into a grayscale image first, and then light pixels are inverted into dark ones, and dark ones are inverted into light ones.



Note: For an image with a transparent or translucent background, the background is not inverted, and only the colors of the pixels in the image are inverted.

In addition to the preceding settings, you can further edit an image.



Magic wand: deletes the area you want to delete from the image

Fuzziness: This parameter is available only for the magic wind, indicating the range of pixel colors you delete at a time. The larger the value, the wider the color range, that is, the colors of the pixels to be deleted can be quite different; the smaller the value, the narrower the color range, that is, the colors of the pixels to be deleted are very similar.

Eraser: erases the area where you click from the image

Size: This parameter is available only for the eraser, indicating the size of the eraser. The larger the value, the larger the eraser.

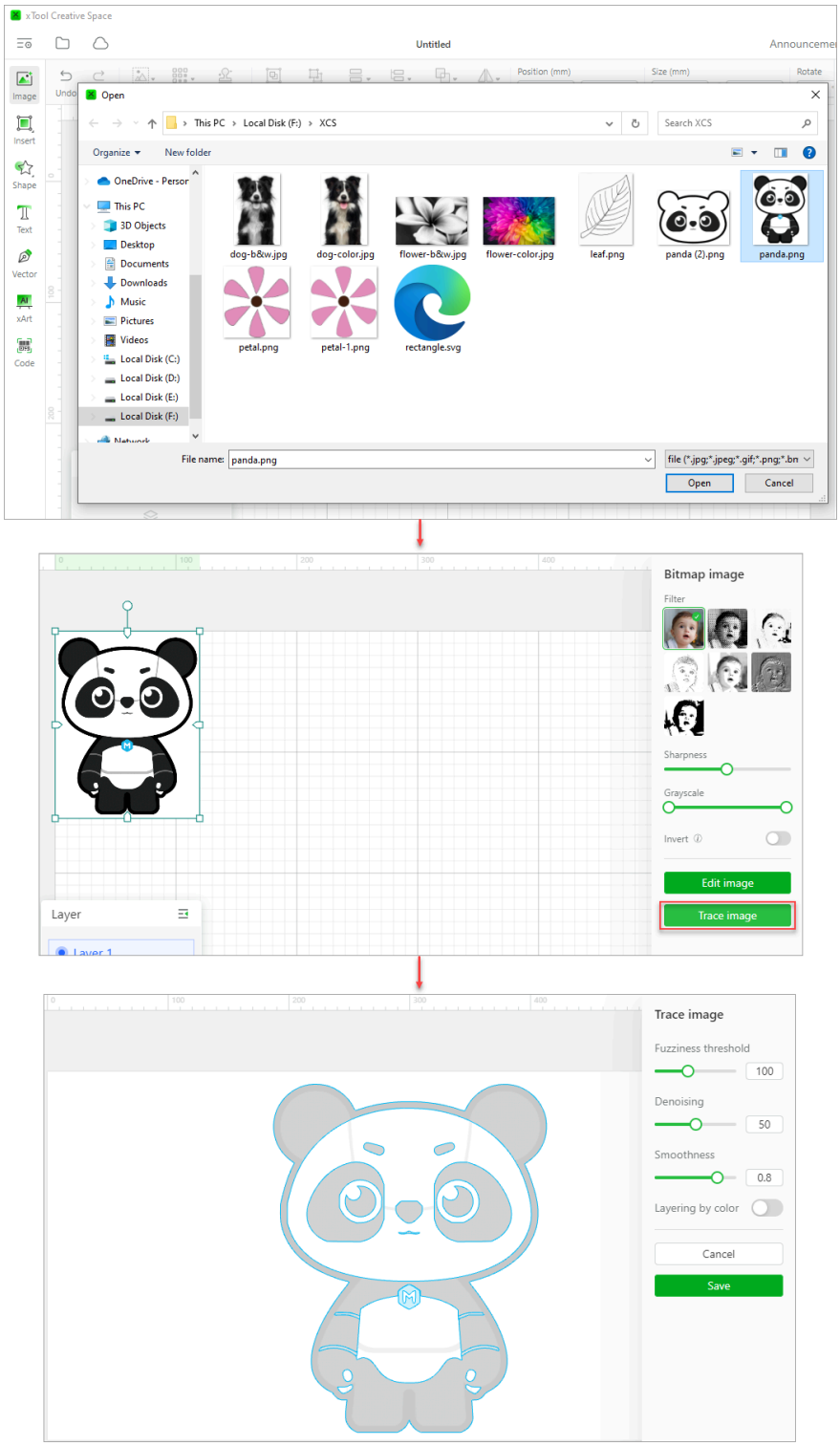
Crop: keeps the area you select

You can also convert a bitmap image into a vector.

(1) Import an image.

(2) Click Trace image.

(3) Set Fuzziness threshold, Denoising, and Smoothness.



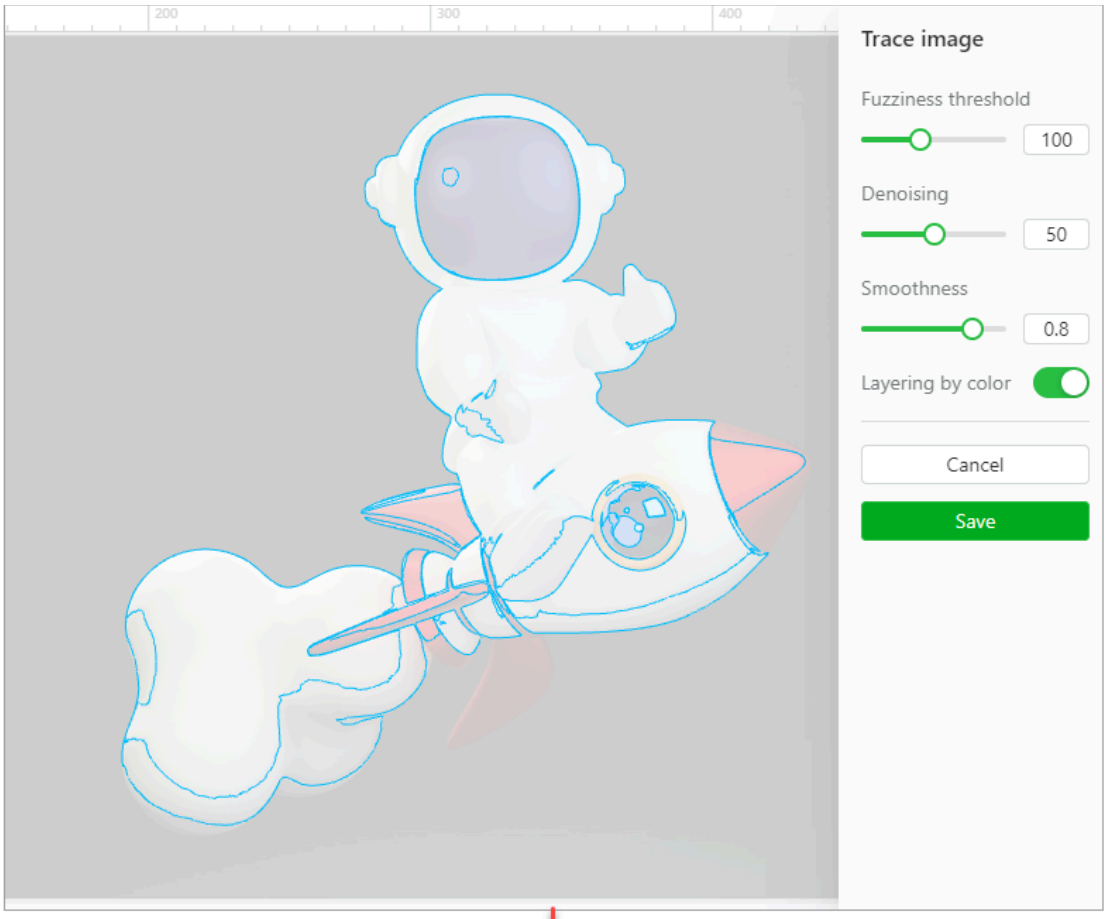
Fuzziness threshold: indicates the range of pixel colors for generating vector paths. The larger the value, the wider the color range, that is, the colors of the pixels used to generate the vector paths can be quite

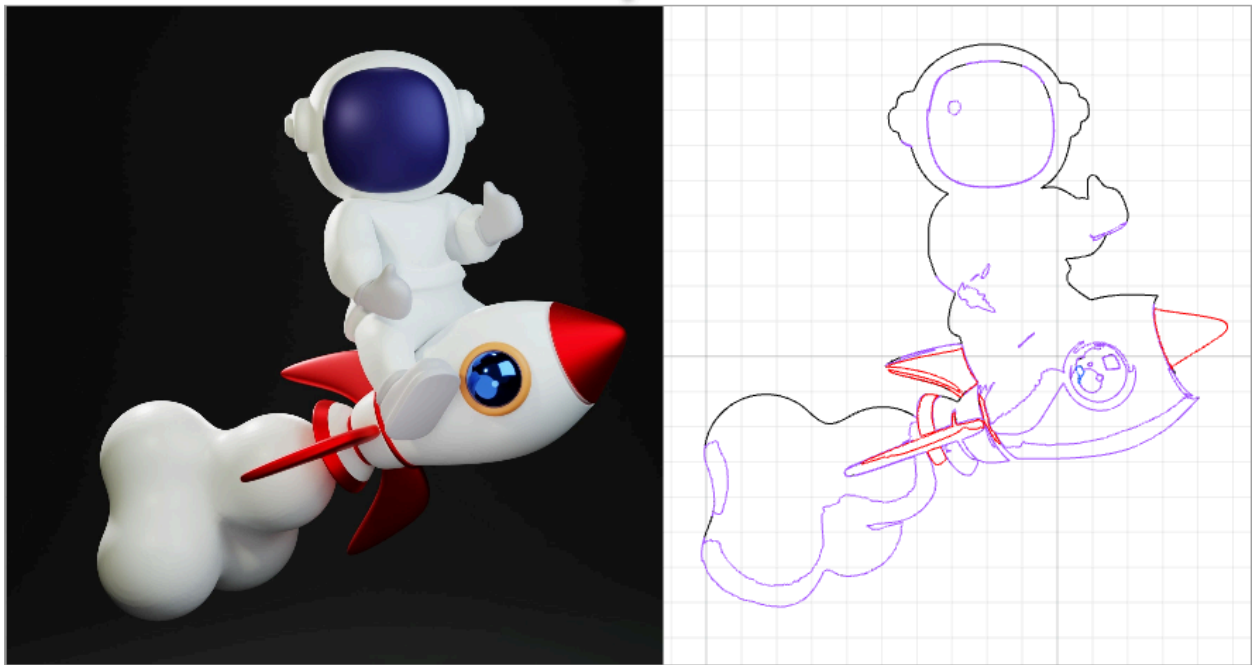
different. The smaller the value, the narrower the color range, that is, the colors of the pixels used to generate the vector paths are very similar. Setting range: 0–255

Denoising: removes the noise of the image. Pixels with a color value lower than the one you set will not be used to generate vector paths. Setting range: 0–100

Smoothness: sets the smoothness of the vector paths to be generated. The larger the value, the smoother the transition between neighboring pixels. Setting range: 0–1

If you are converting an image with many details, you can enable the Layering by color function. When it is enabled, the vector paths generated are layered by color, and then you can ungroup them and edit each layer.


200
300
400
Trace image
Fuzziness threshold
100
Denoising
50
Smoothness
0.8
Layering by color
Cancel
Save

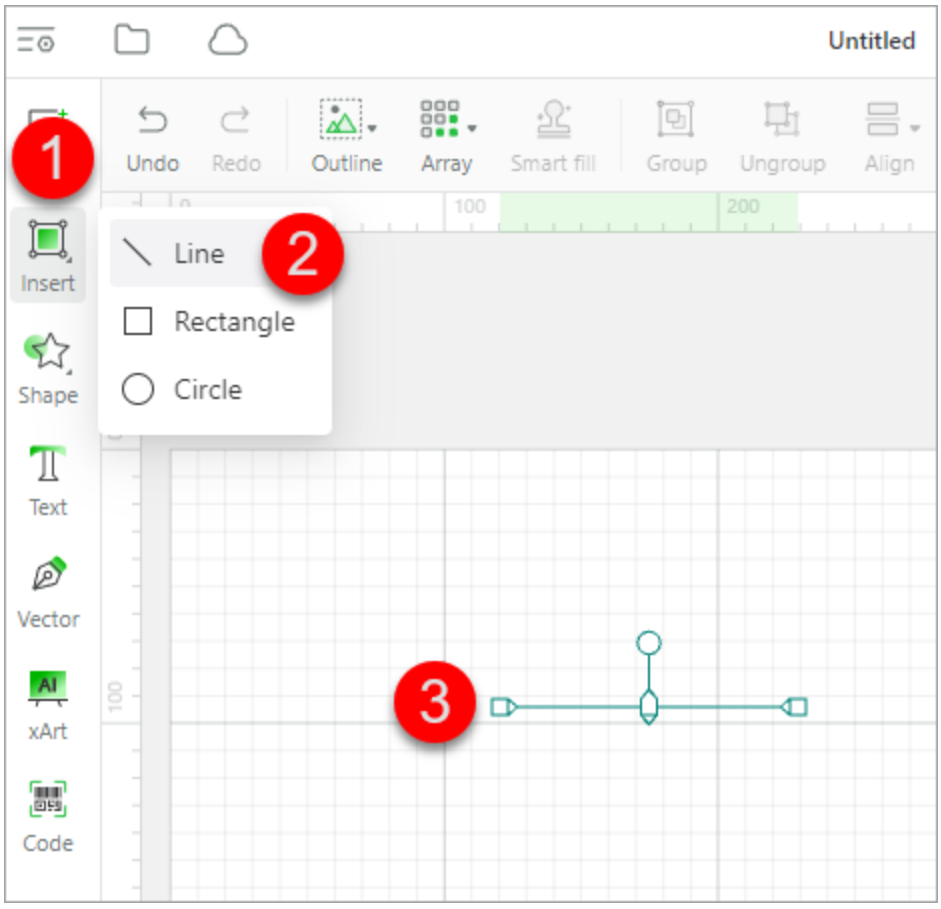


Note:

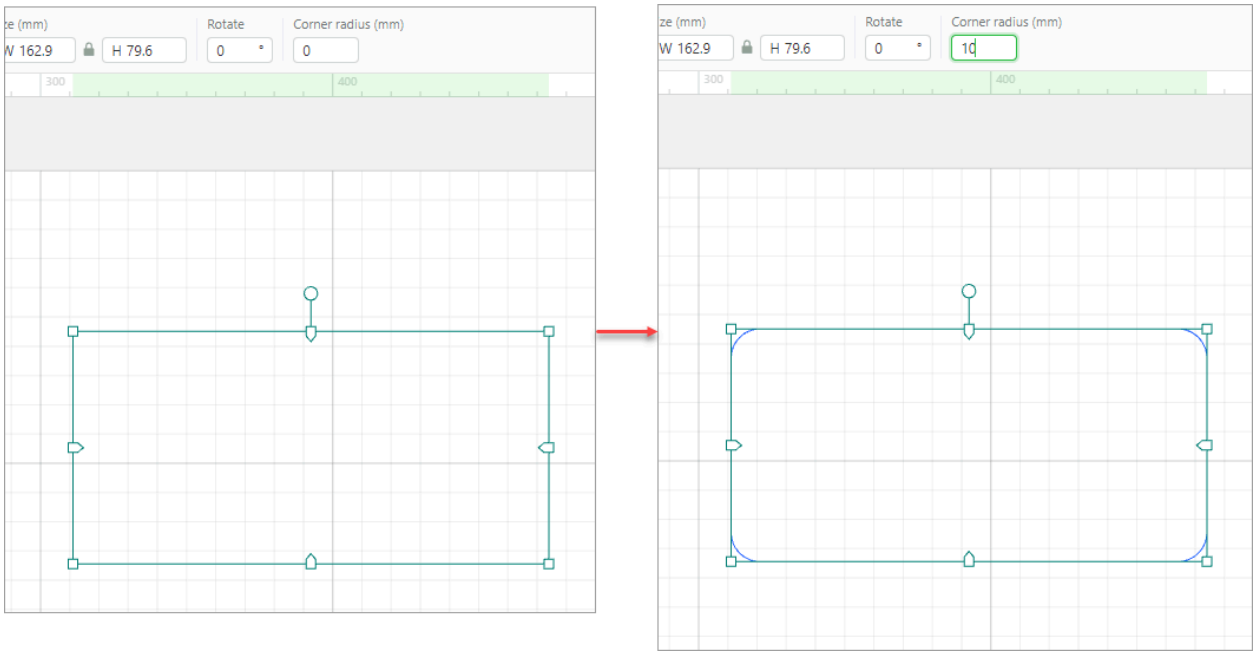
- **For a very colorful or complicated image, you need to invert it before tracing its lines.**
- **For images of which outlines are fuzzy, contains many colors, or colors are very similar to those of the background, the tracing may fail and thus vector generation may fail.**

Insert

Insert: selected to draw a common shape. You can press Shift to draw a square, circle, or horizontal or vertical line.

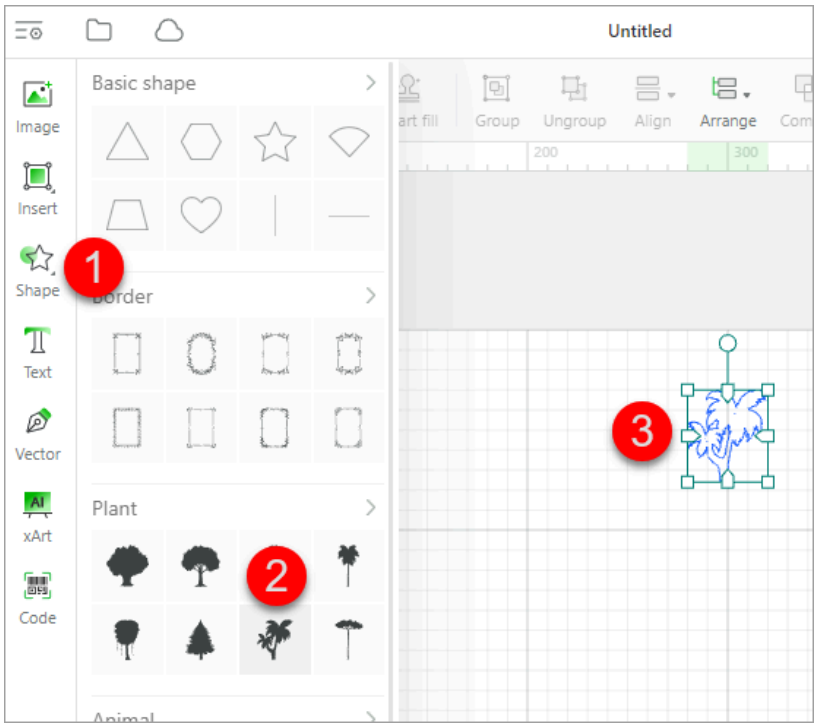


After drawing a rectangle, you can set the corner radius for it.



Shape

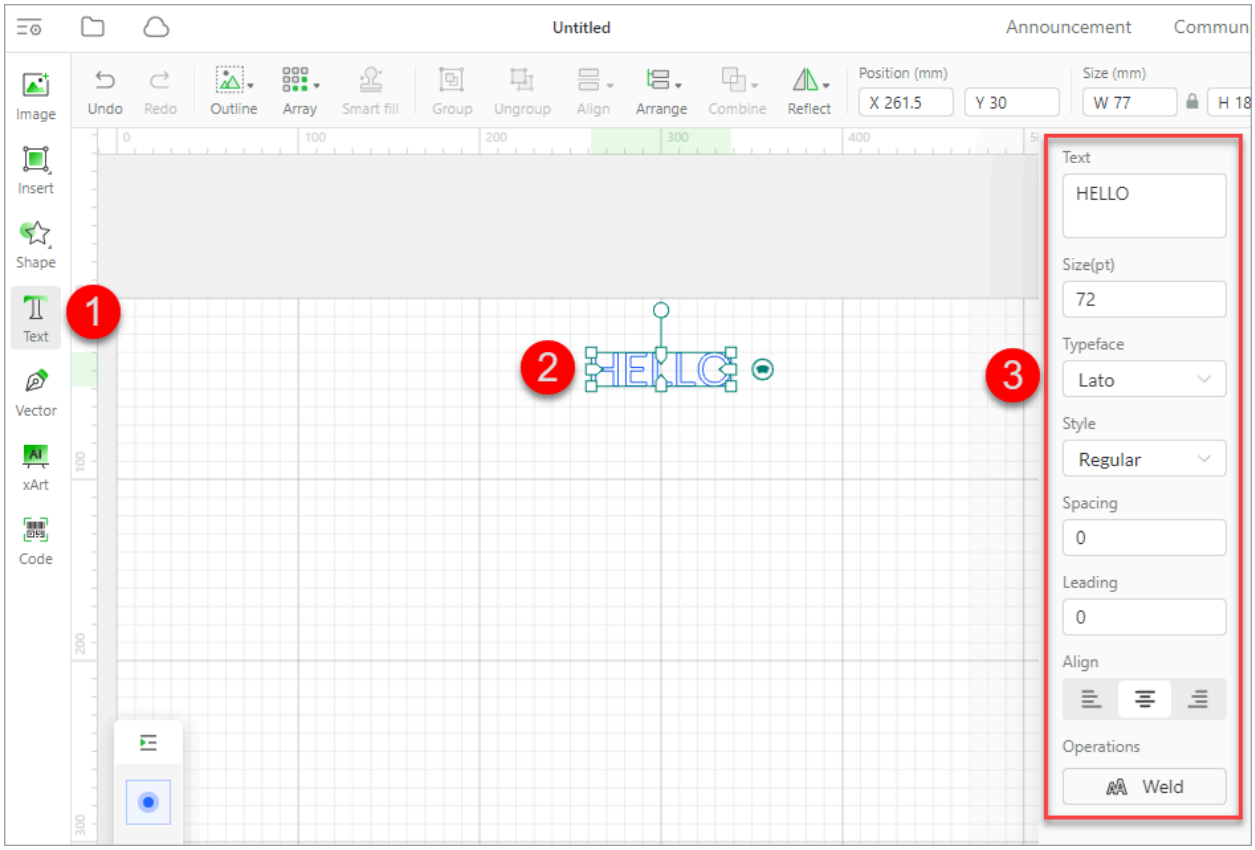
Shape: Click to insert a shape



Note: After being inserted, a shape is set to be scored by default. You can set to cut it or engrave it.

Text

Text: click to insert a text. The default text is HELLO. After inserting the text, you can change the words, and set the font size, typeface, style, spacing, leading, and aligning mode. In addition, you can weld the character strings in a text.



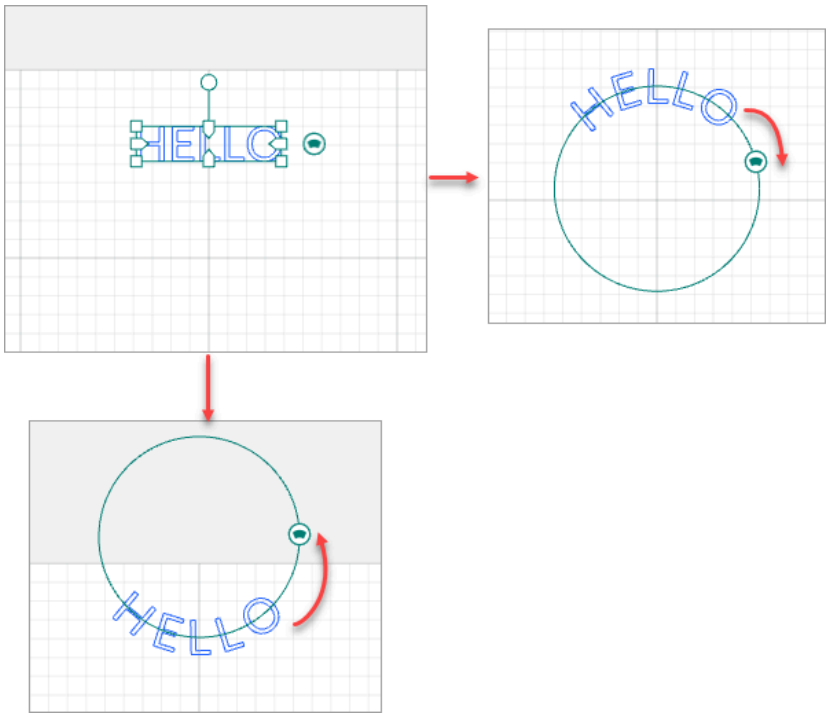
Weld

This function is used to unite the character strings that overlap one another partially in a text. After being welded, the text becomes vector paths and the text setting panel is not displayed after you select it.

If no character strings overlap one another partially in the text, the text looks the same but becomes vector paths after you weld it, and the text setting panel is not displayed after you select it.

Curve

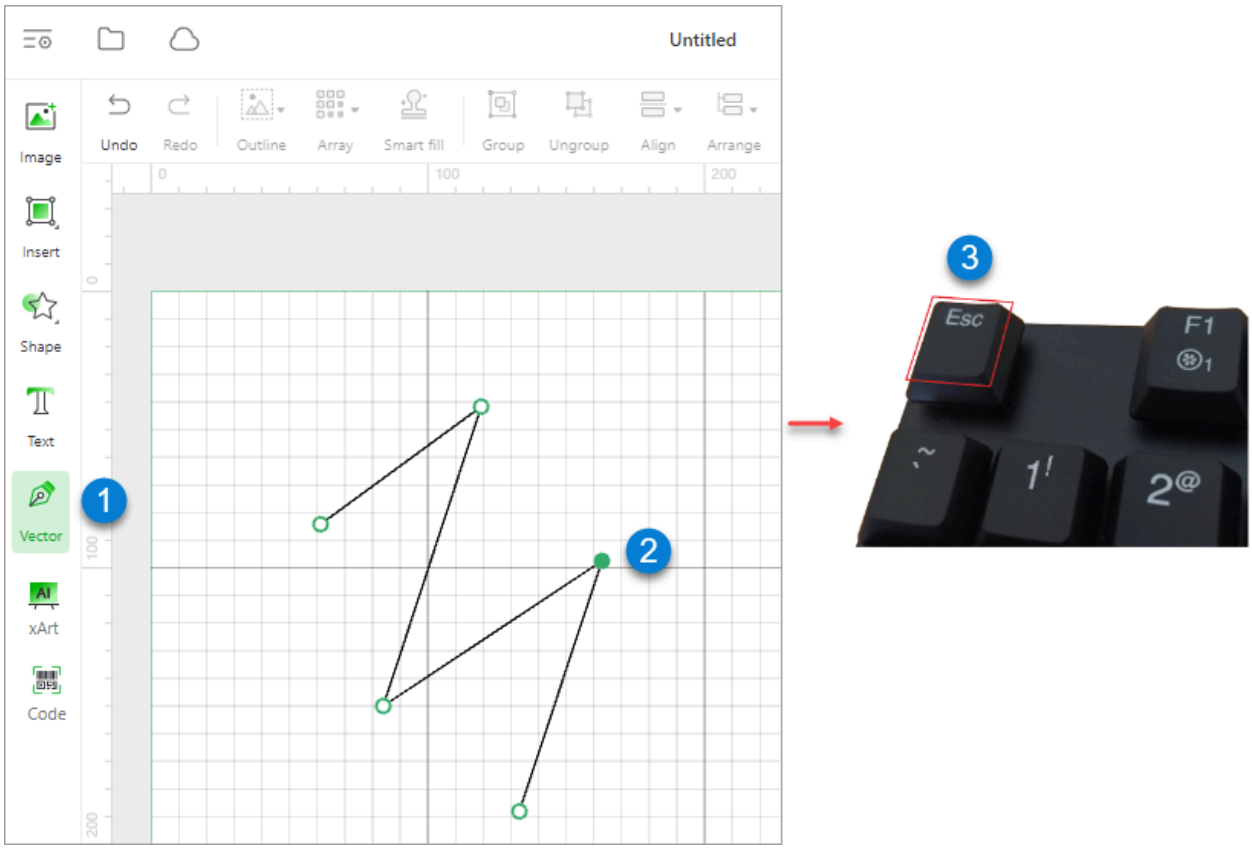
After inserting a text, you can see a control on the right of the text. You can curve the text by dragging the control.



Vector

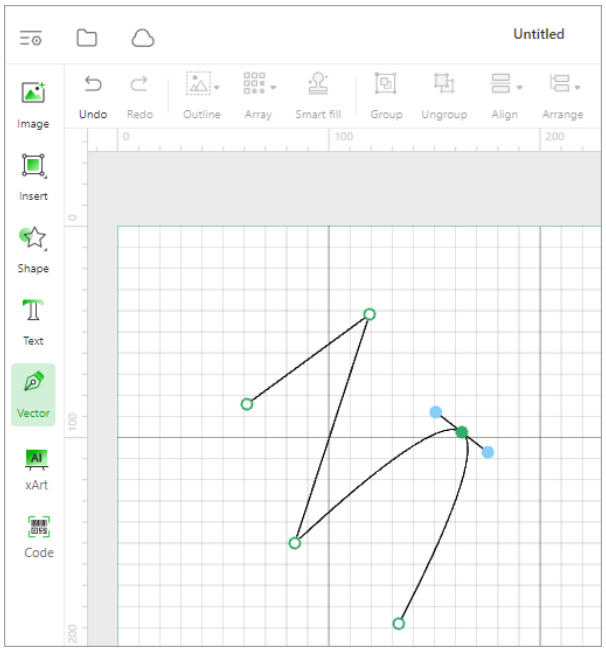
Vector: selected to draw a vector path

You can press the Esc key or click any other menu to finish the drawing.



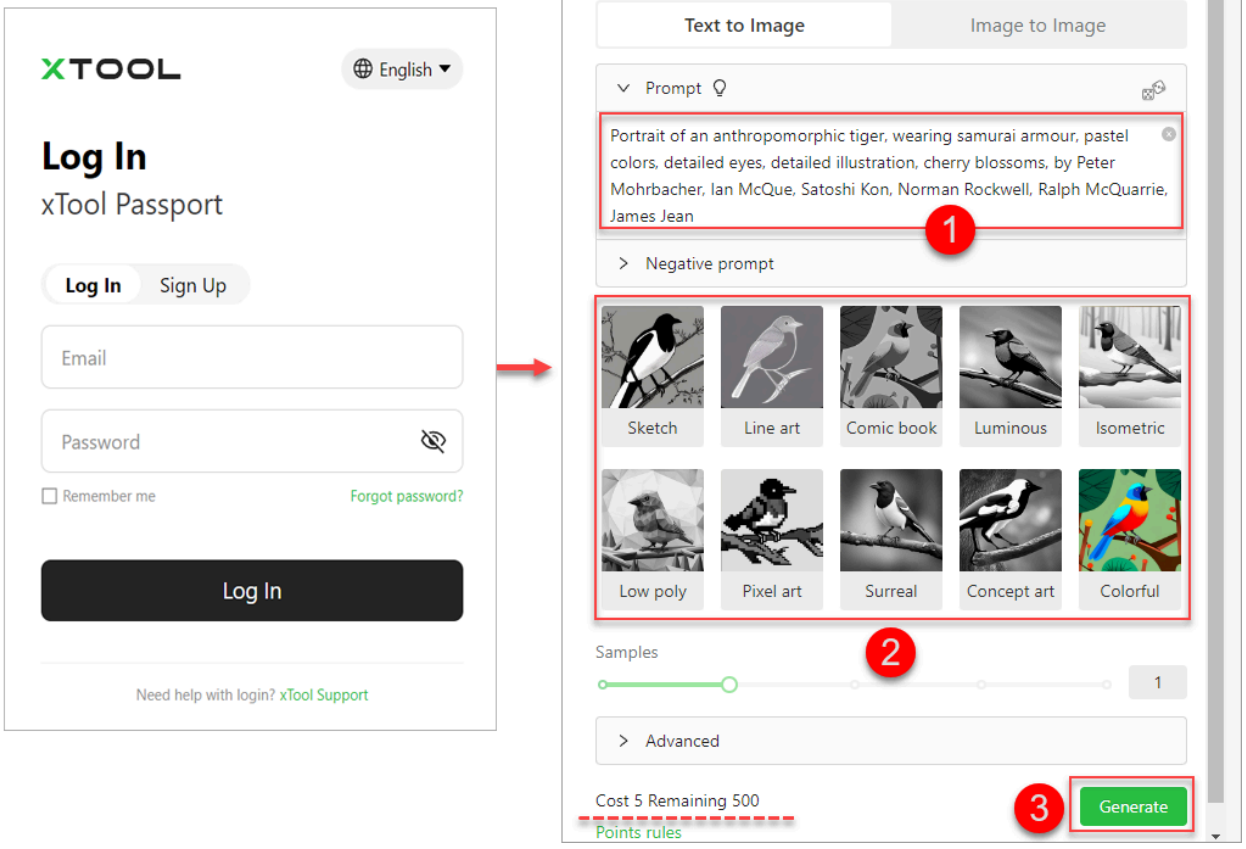
After drawing a vector path, you can double-click it to edit it as follows:

- **Double-click an anchor point to convert it to a rounded corner or back to a corner.**
- **Drag an anchor to change the curvature.**



xArt

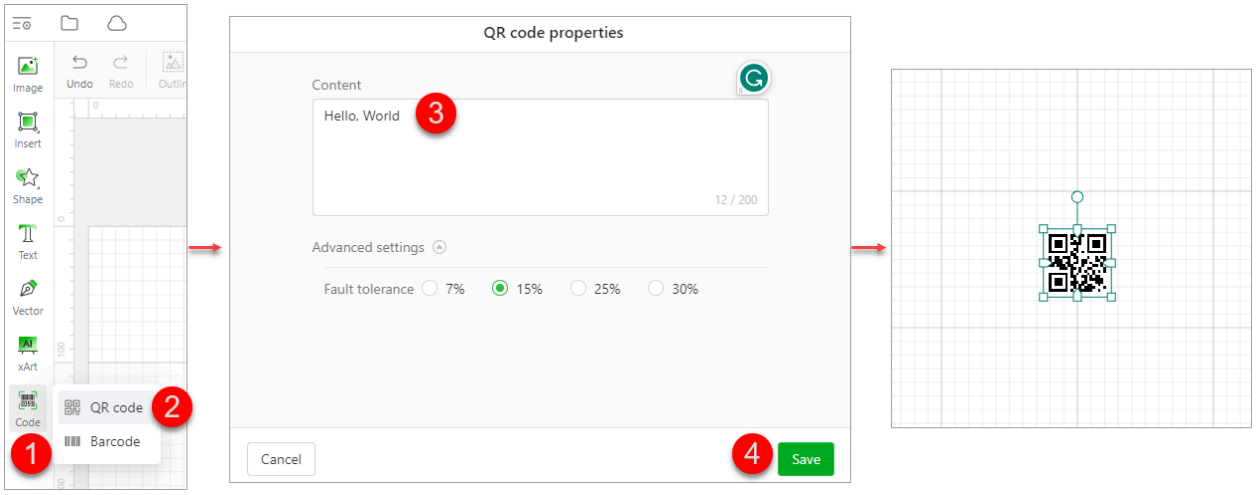
xArt: click to enter the xArt image generation portal, where you can generate images by entering prompts or uploading images. Currently, this is a beta function and is being improved. If you use xArt for the first time, you need to sign up an account and get your initial points, and every time you use xArt to generate an image, a number of points is cost.


XTOOL
English
Log In
xTool Passport
Log In
Sign Up
Email
Password
Remember me
Forgot password?
Log In
Need help with login? xTool Support
Text to Image
Image to Image
Prompt
Portrait of an anthropomorphic tiger, wearing samurai armour, pastel colors, detailed eyes, detailed illustration, cherry blossoms, by Peter Mohrbacher, Ian McQue, Satoshi Kon, Norman Rockwell, Ralph McQuarrie, James Jean
1
Negative prompt
Sketch
Line art
Comic book
Luminous
Isometric
Low poly
Pixel art
Surreal
Concept art
Colorful
Samples
2
1
Advanced
Cost 5 Remaining 500
Points rules
3
Generate

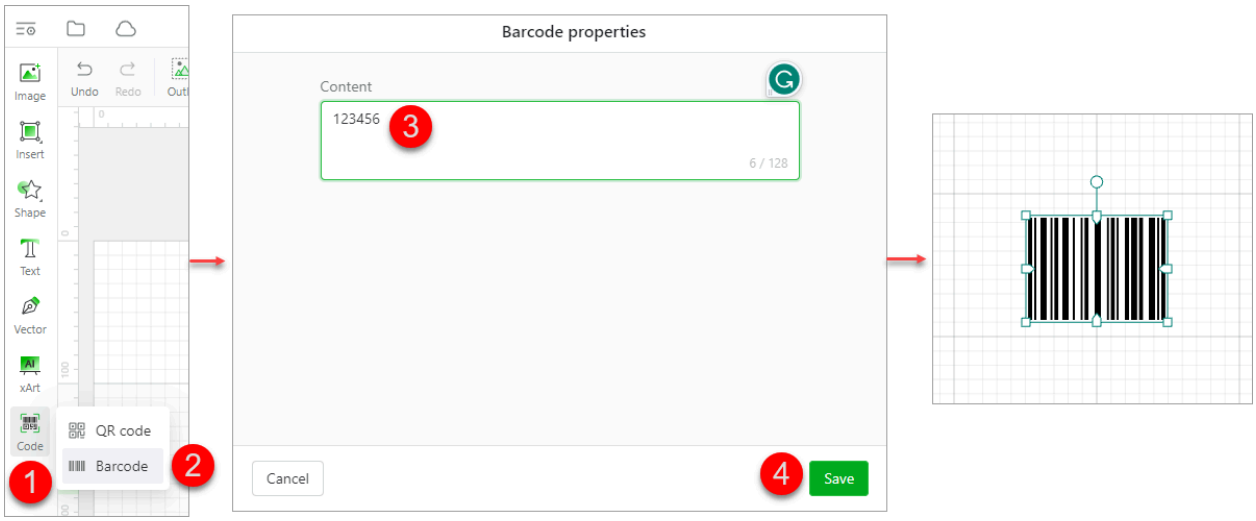
Code

Code: click to enter a character string to generate a QR code or barcode

QR code: supporting Chinese and English characters, digits, punctuations, and special symbols



Barcode: supporting English characters and digits



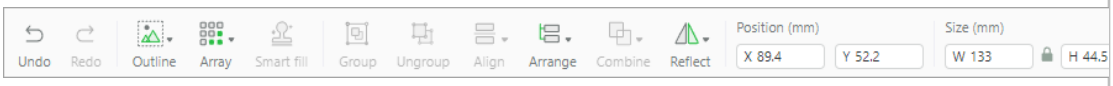
Select

Select: click and select one or more items

- **Select one element: click an item to select it**
- **Select multiple elements:**
    - **Way 1: drag the mouse pointer over all the elements to be selected**
    - **Way 2: hold down the Shift key on the keyboard and click the elements to be selected. When holding down the Shift key, you can click an element again to deselect it.**

  Note: When multiple elements are of the same type, you can set processing parameters for them at a time. But for those of different types, you need to set processing parameters for them separately.
- **Hand: selected to move the canvas by dragging the mouse.**

Horizontal toolbar



- **Undo: cancels the last action**
- **Redo: performs the last action again**
- **Outline: adds an outline to an element**
- **Array: creates multiple copies of an element at a time**
- **Smart fill: duplicates a design element for multiple materials**
- **Group: groups two or more elements**
- **Ungroup: ungroups the grouped elements**
- **Align: aligns two or more elements**
- **Arrange: arranges the order of an element**
- **Combine: combines two or more vector paths**
- **Reflect: reflects an element horizontally or vertically**
- **Position: sets the position of an element on the canvas by the x and y coordinates**
- **Size: displays or sets the size of an element**
- **Rotate: rotates an element by angle**

Undo

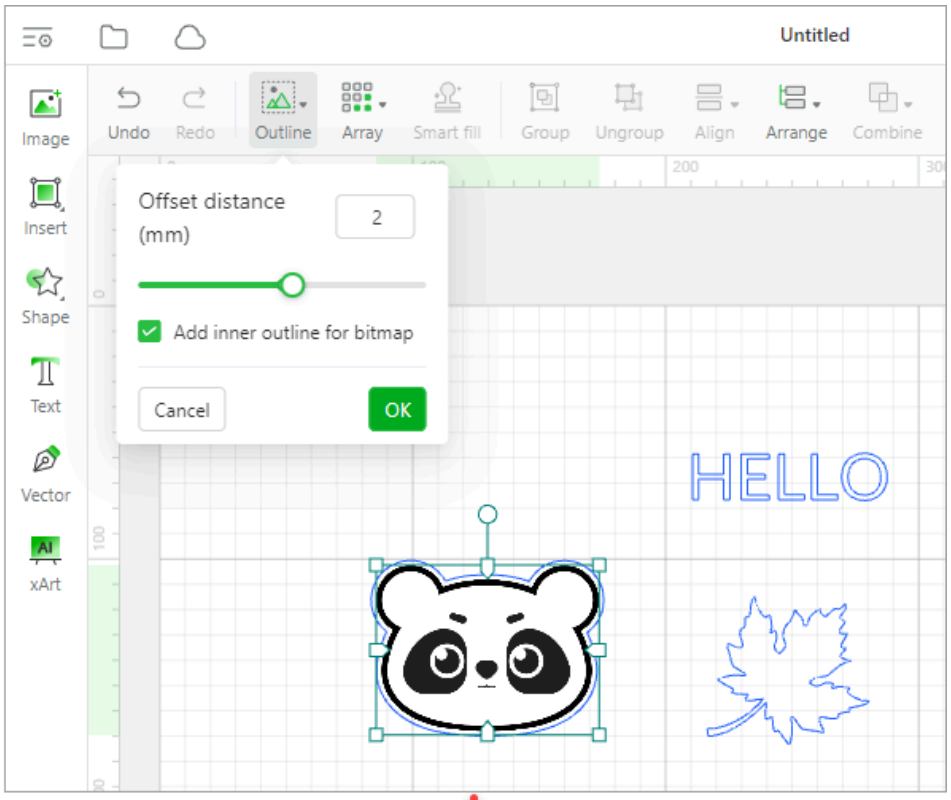
Undo: cancels the last action

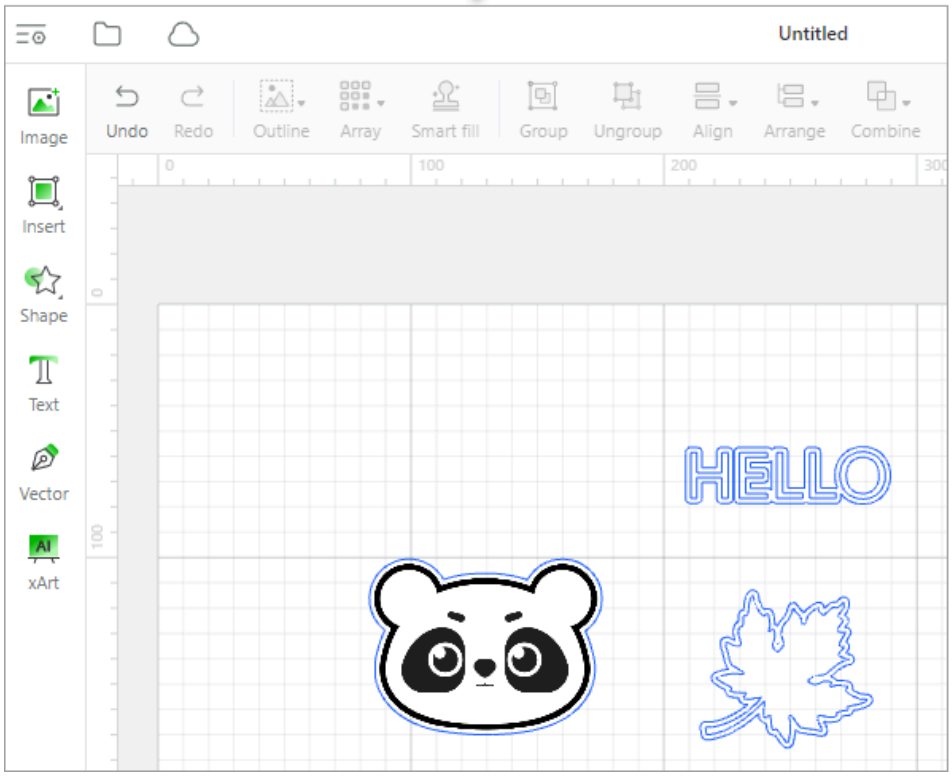
Redo

Redo: performs the last action again

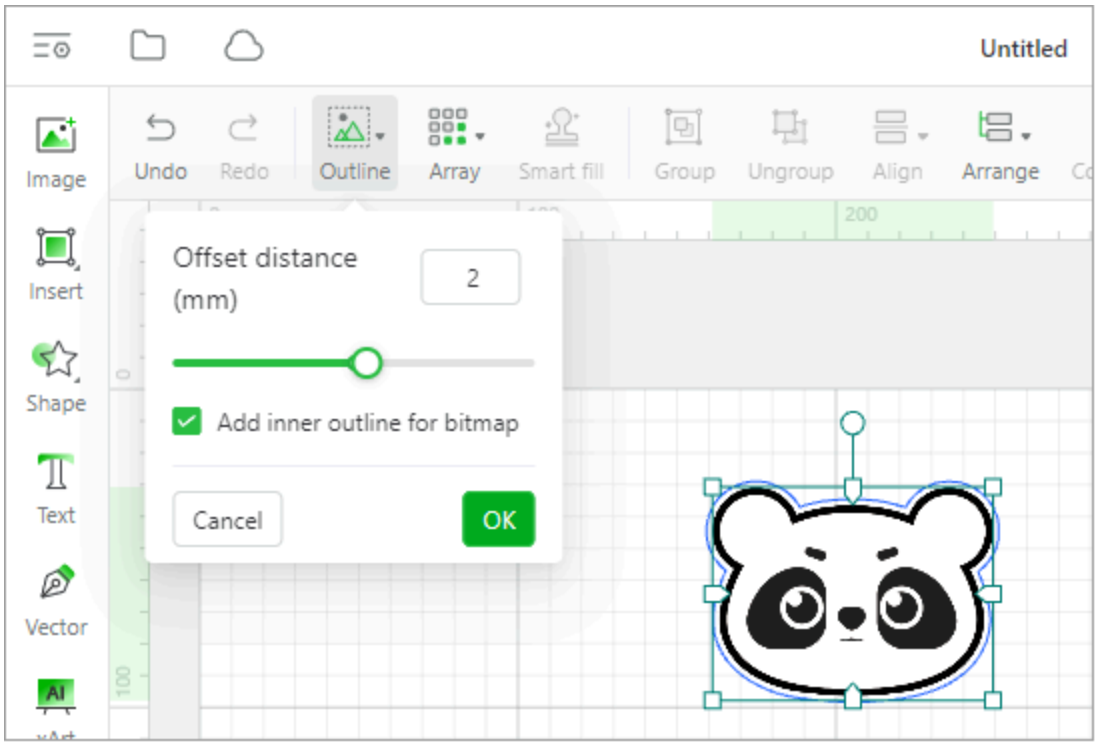
Outline

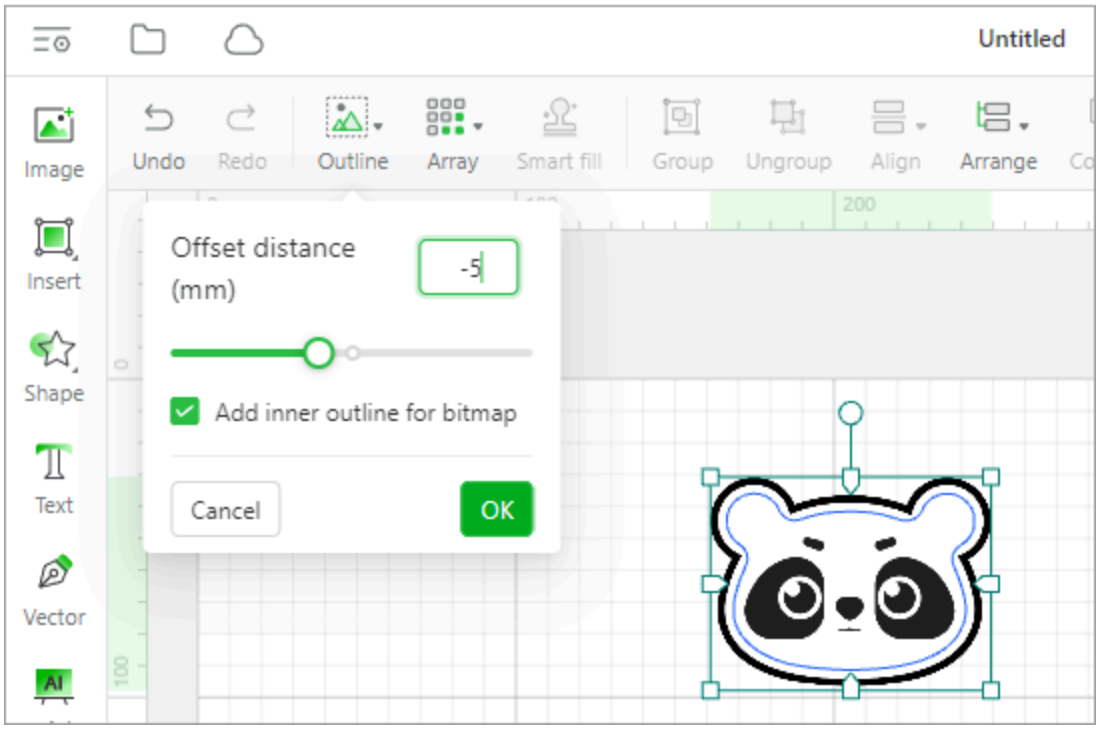
Outline: adds an outline to the elements. In addition to adding outlines for bitmaps, vector paths, and texts, you can add inner outlines for bitmaps with transparent backgrounds.


Untitled
Image
Insert
Shape
Text
Vector
xArt
Undo
Redo
Outline
Array
Smart fill
Group
Ungroup
Align
Arrange
Combine
Offset distance (mm)
2
Add inner outline for bitmap
Cancel
OK
HELLO

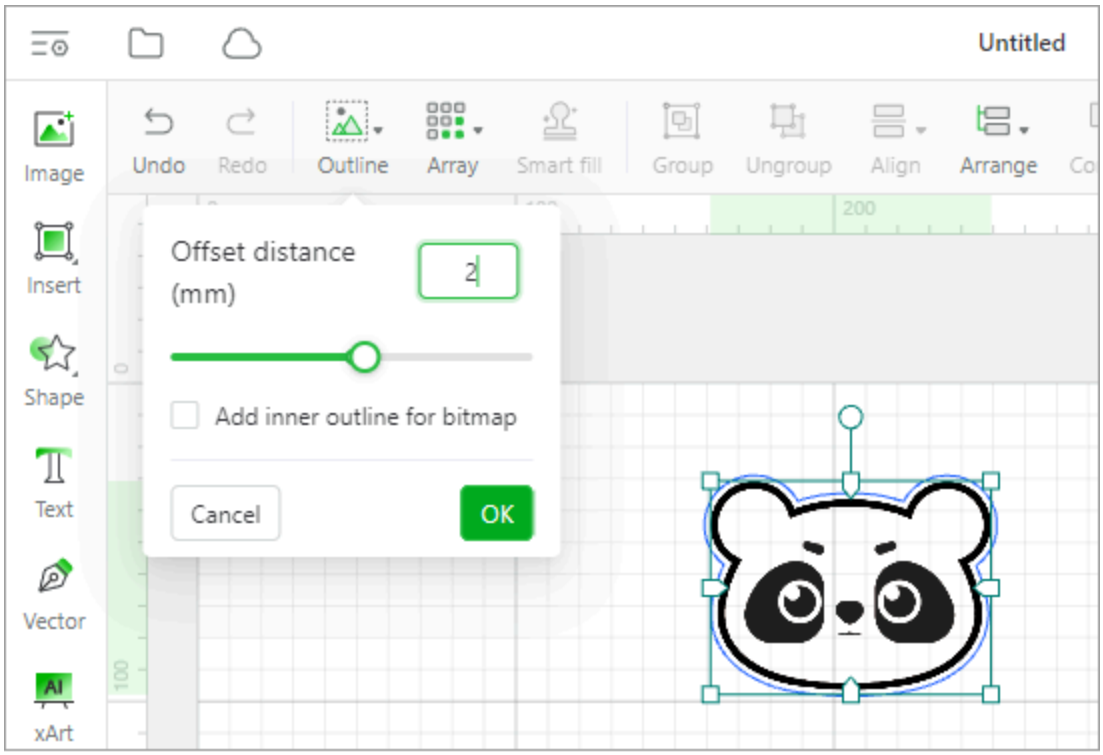

Untitled
Image
Insert
Shape
Text
Vector
xArt
Undo
Redo
Outline
Array
Smart fill
Group
Ungroup
Align
Arrange
Combine
HELLO

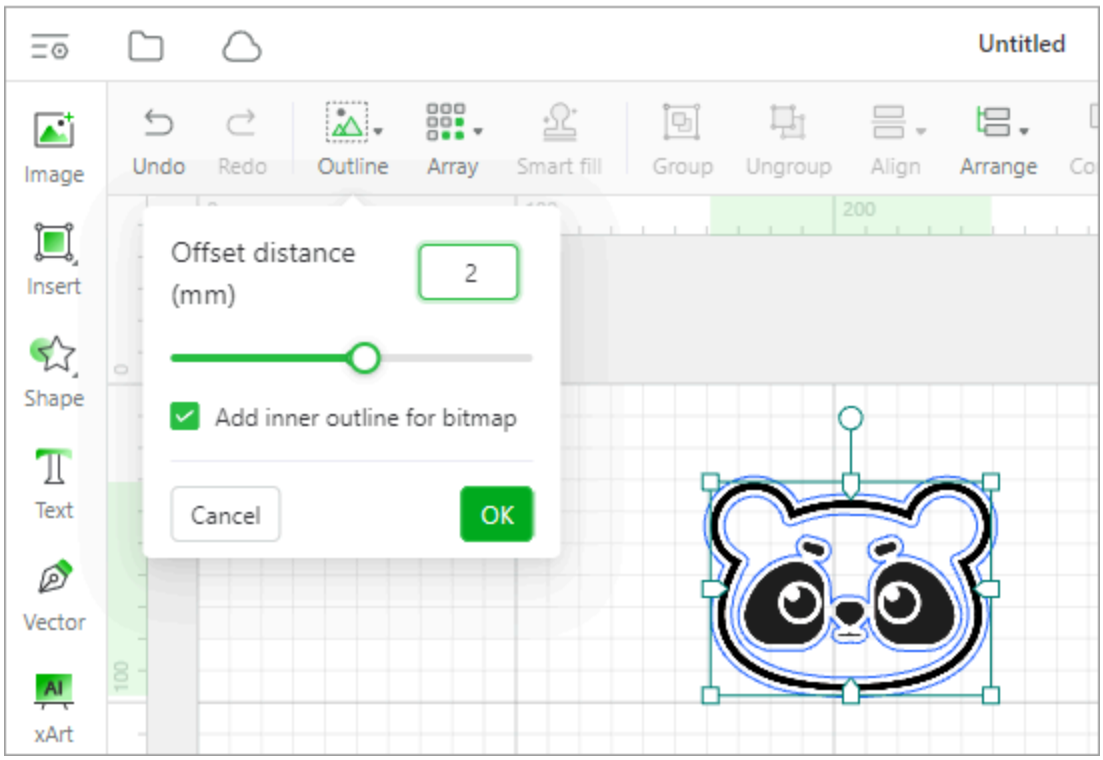
If the background of a bitmap image is not transparent, when the offset distance is a positive value, the outline is outer. When the offset distance ia s negative value, the outline is inner.





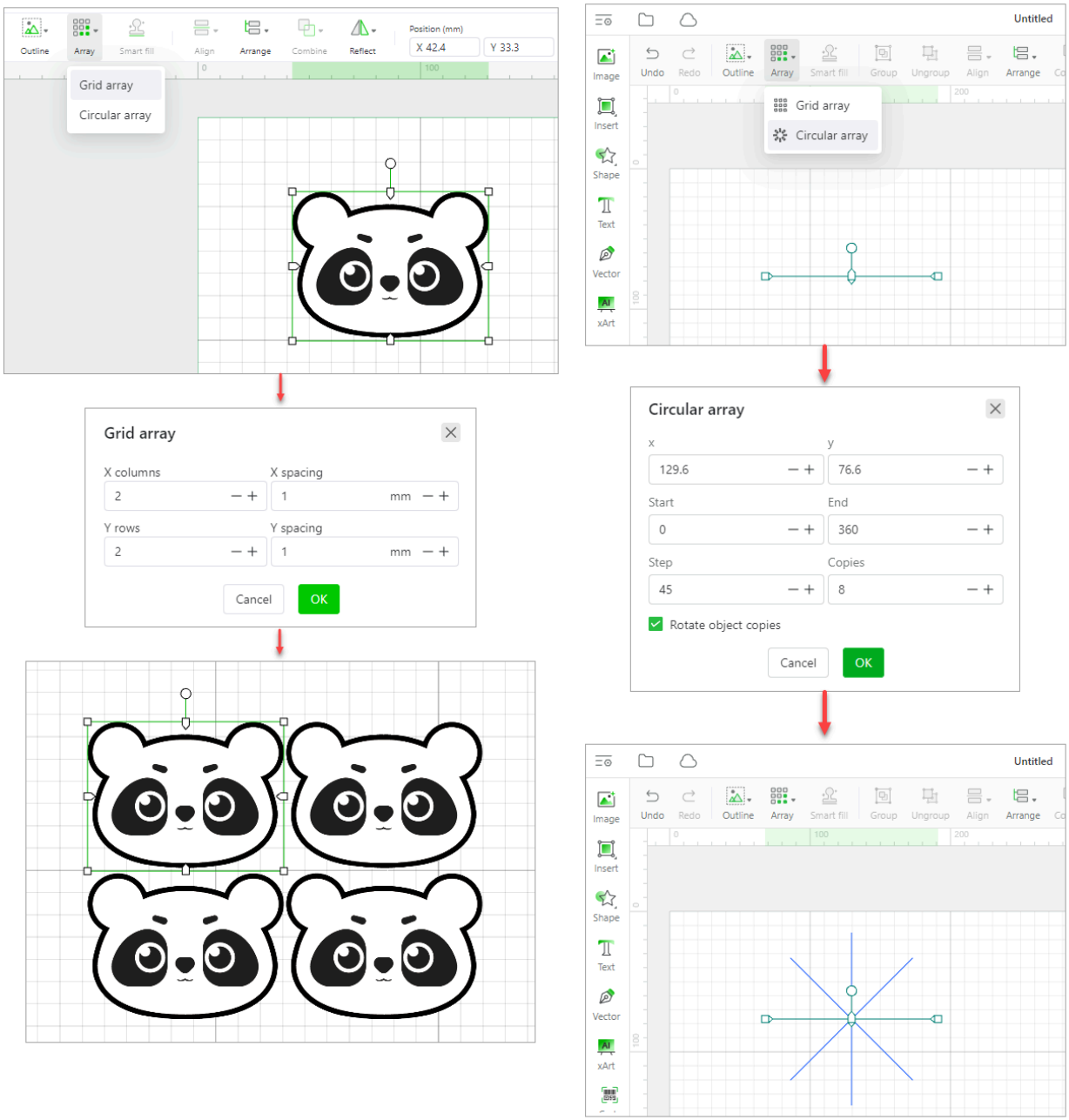
If the background of a bitmap image is transparent, you can select Add inner outline for bitmap to add an inner and outer outline for it.



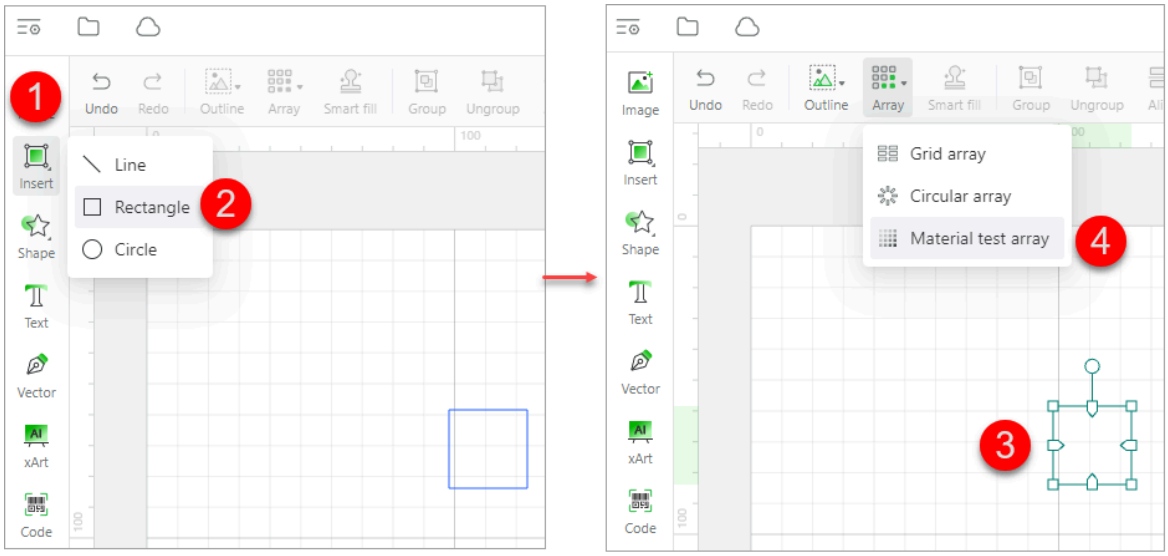


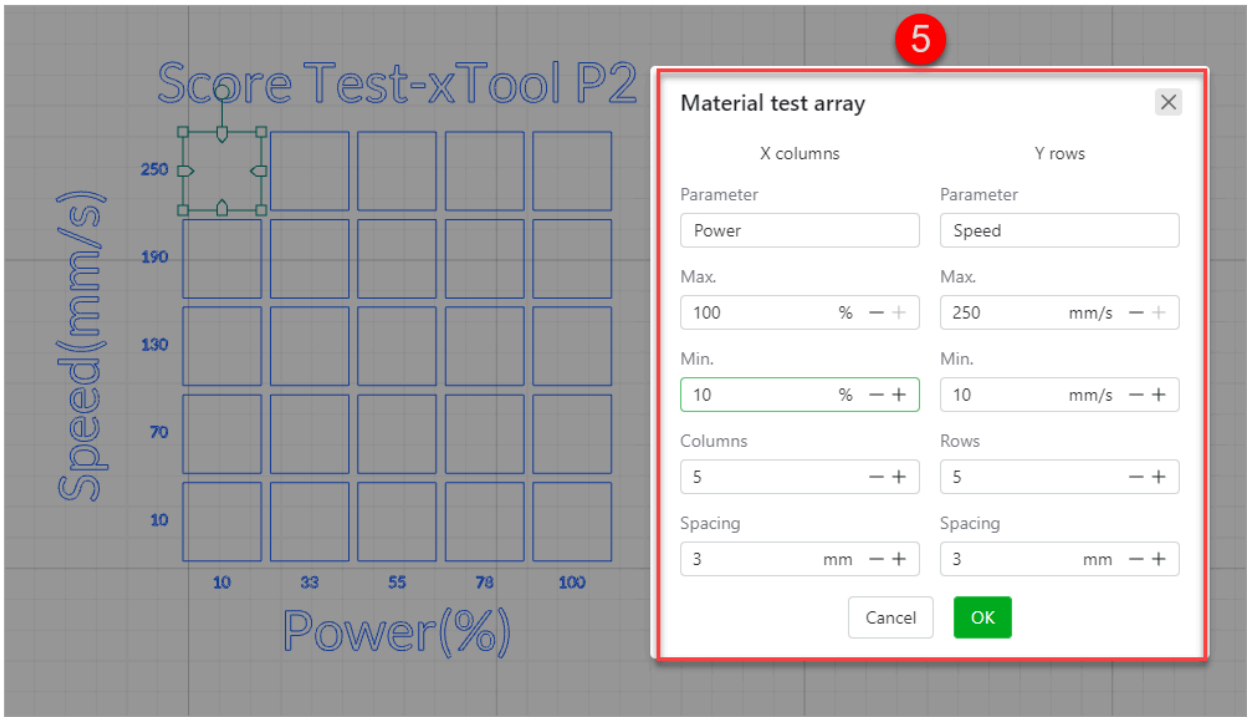
Array

Array: creates multiple copies of an element at a time and lays them out in grid or circular mode. Select an element, choose an array mode, and complete the settings.



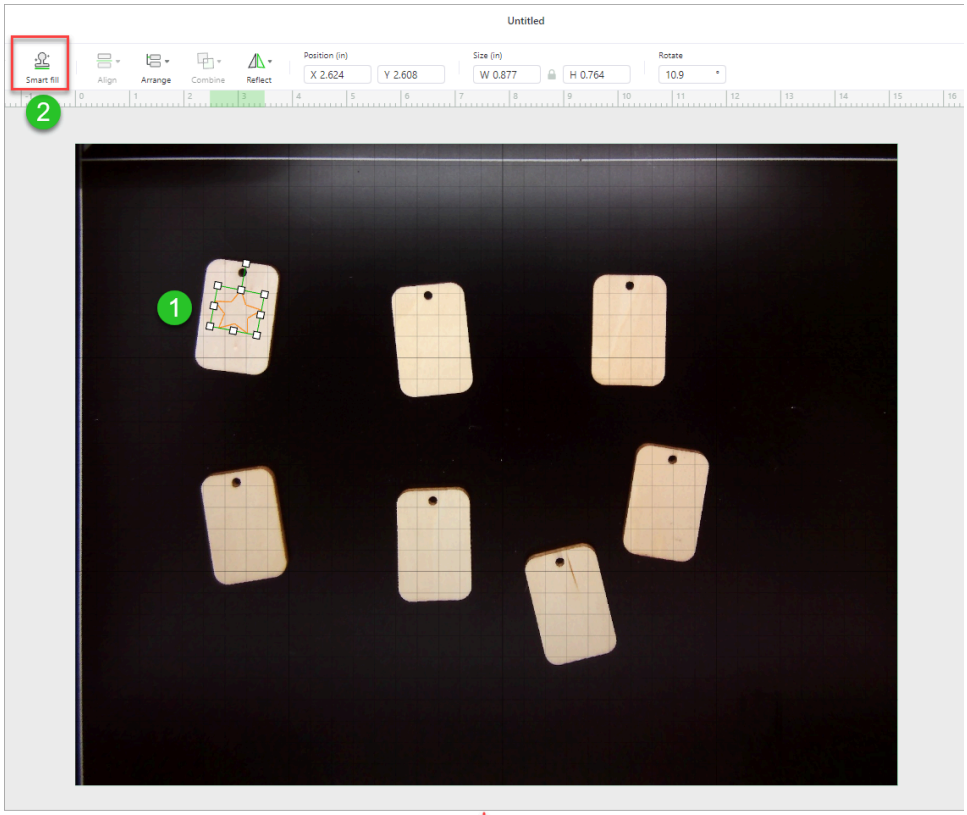
In addition, you can create a material test array by setting the number of rows and columns, maximum and minimun processing speed and power, and spacing.

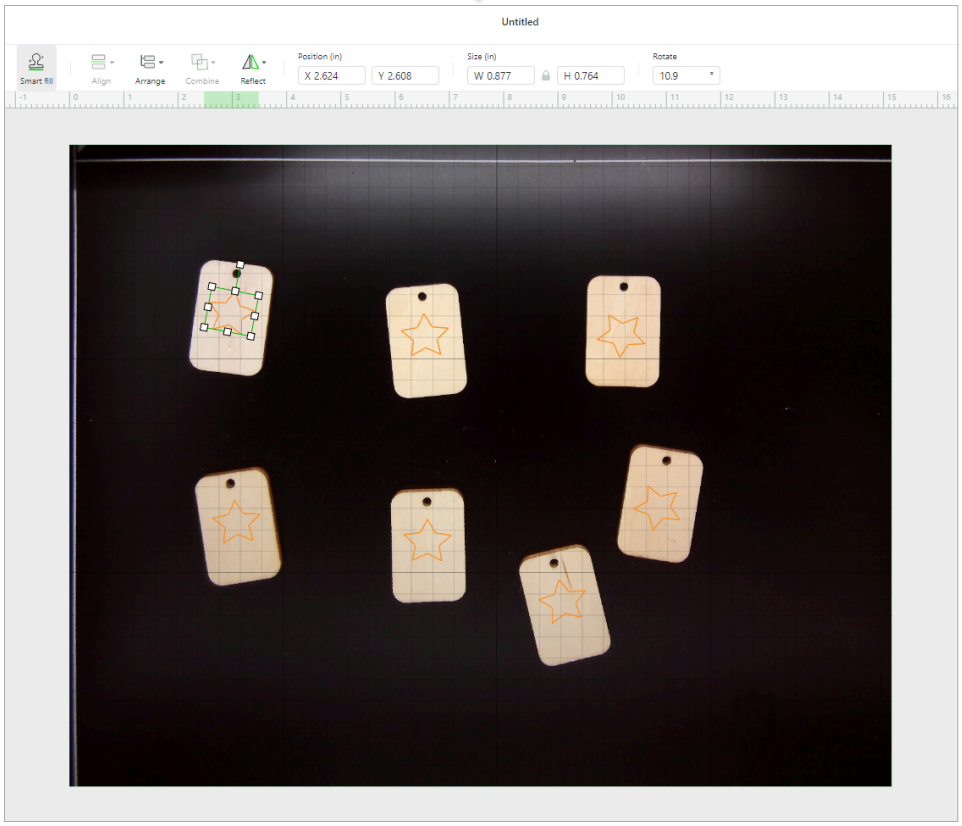




Smart fill

Smart fill: duplicates a design element for multiple materials, helping you process multiple materials at a time. Edit your design for one material, and then click Smart fill. The same design is generated for other materials.


Untitled
Smart fill
Align
Arrange
Combine
Reflect
Position (in)
X 2.624
Y 2.608
Size (in)
W 0.877
H 0.764
Rotate
10.9
1
2


Untitled
Smart fill
Align
Arrange
Combine
Reflect
Position (in)
X 2.624
Y 2.608
Size (in)
W 0.877
H 0.764
Rotate
10.9

Group

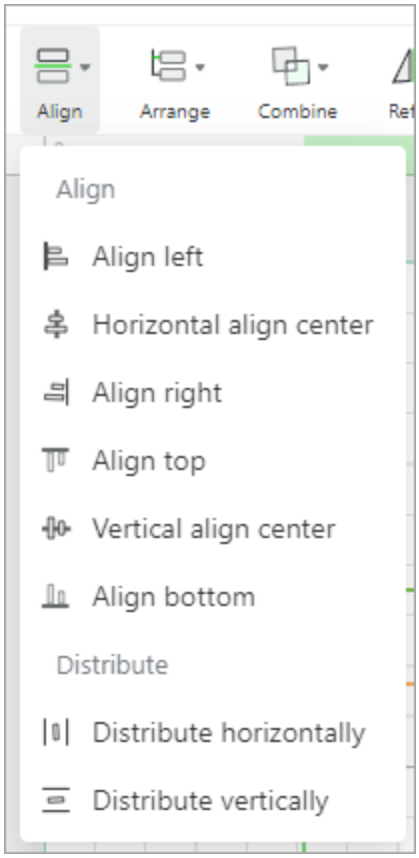
Group: groups two or more elements you've selected. You can press "Ctrl (Command) + G" to group objects.

Ungroup

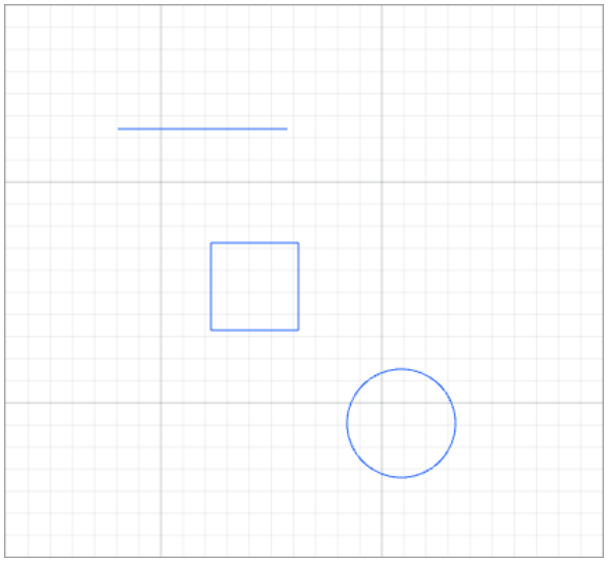
Ungroup: ungroups the elements you've grouped. You can press "Ctrl (Command) + U" to ungroup objects.

Align

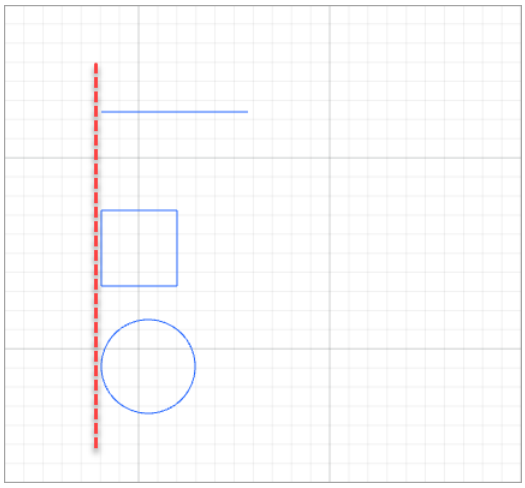
Align: aligns multiple elements



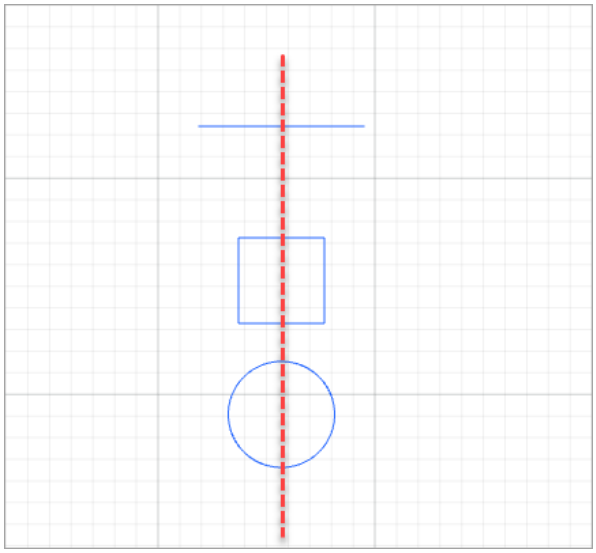
For example, to align the elements shown in the following figure.



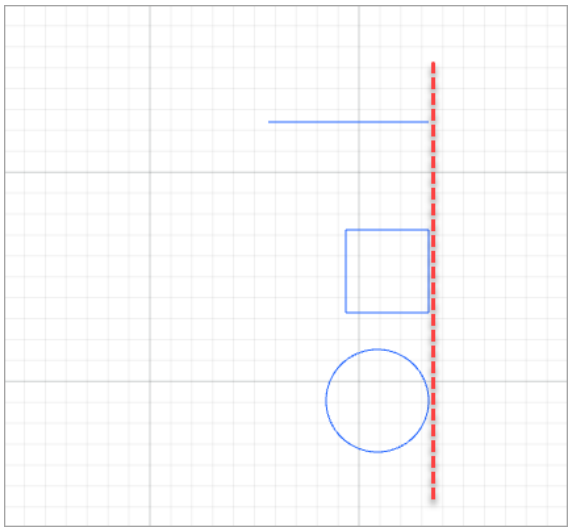
- **Align left**



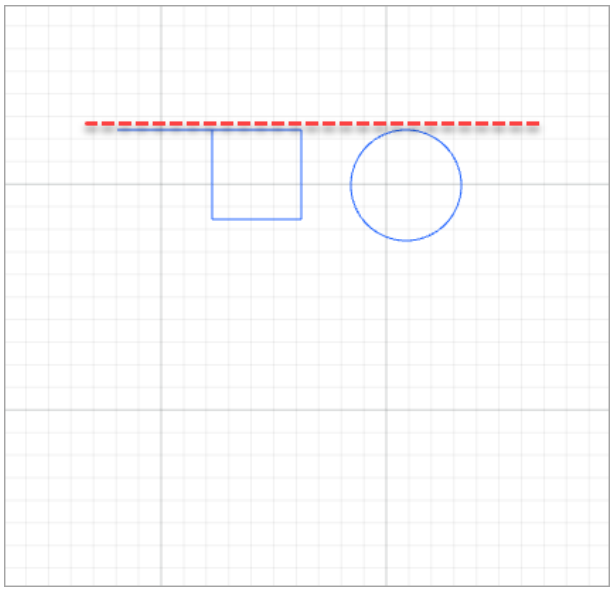
- **Horizontal align center**



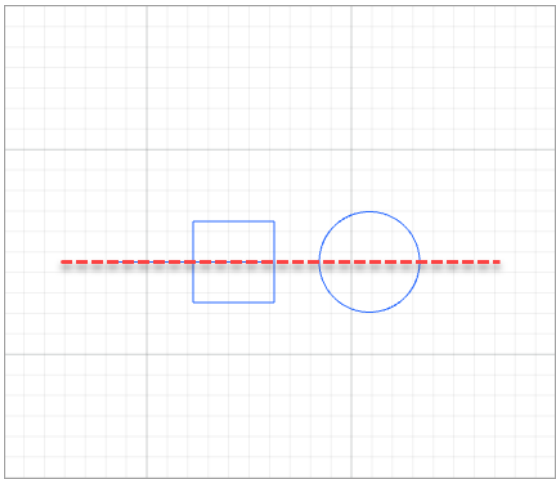
- **Align right**



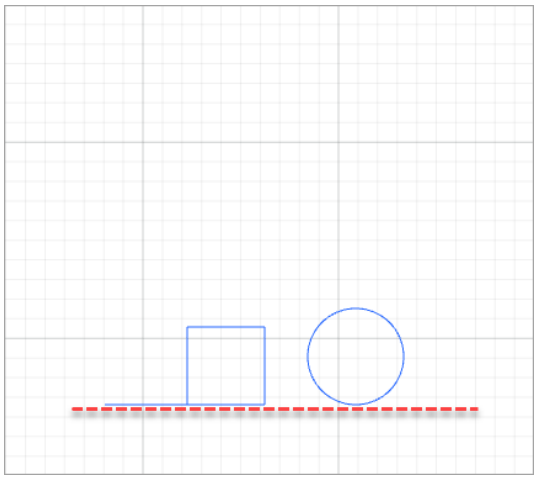
- **Align top**



- **Vertical align center**

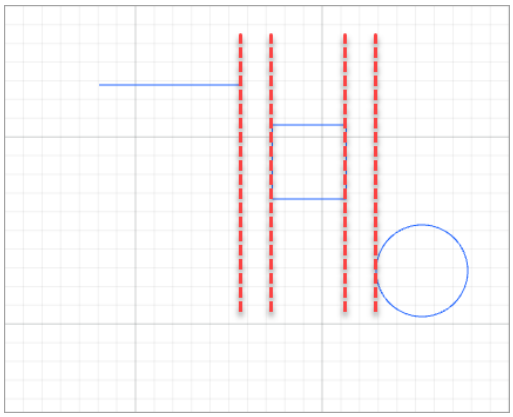


- **Align bottom**

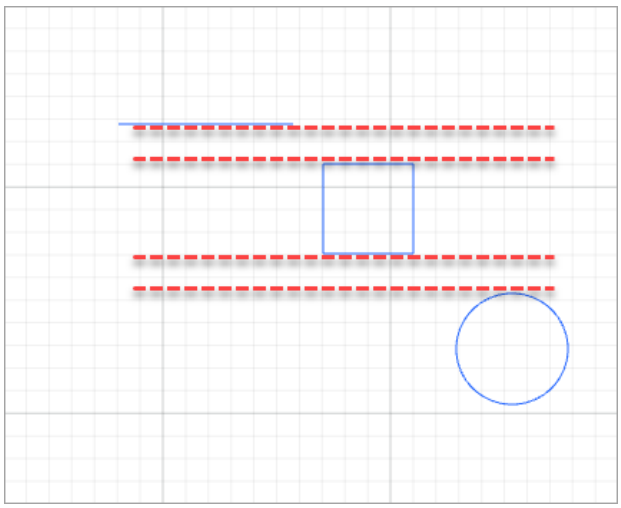


For example, to distribute the elements shown in the following figure.

- **Distribute horizontally**

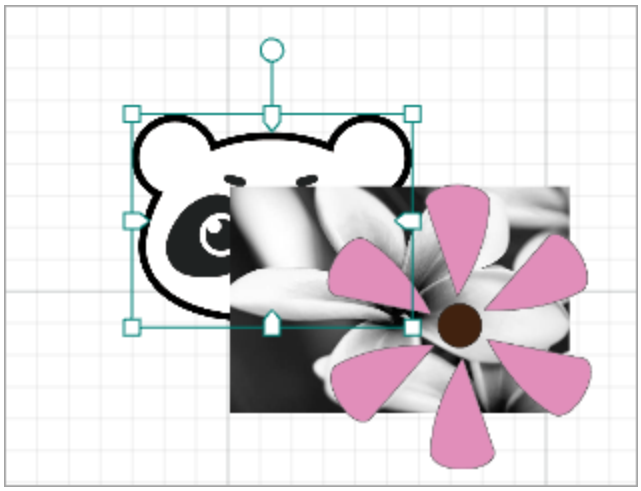


- **Distribute vertically**

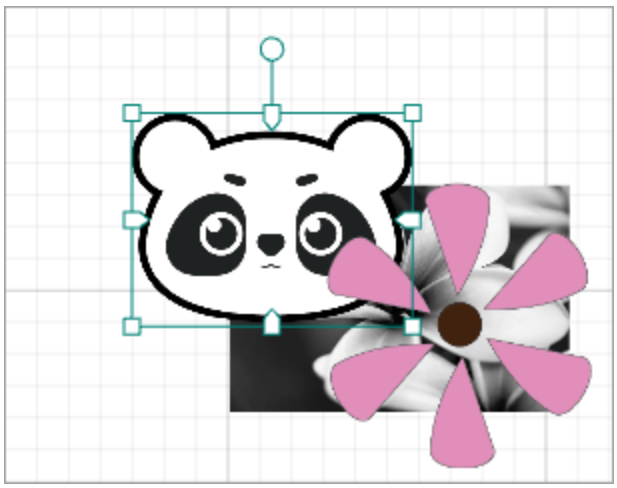


Arrange

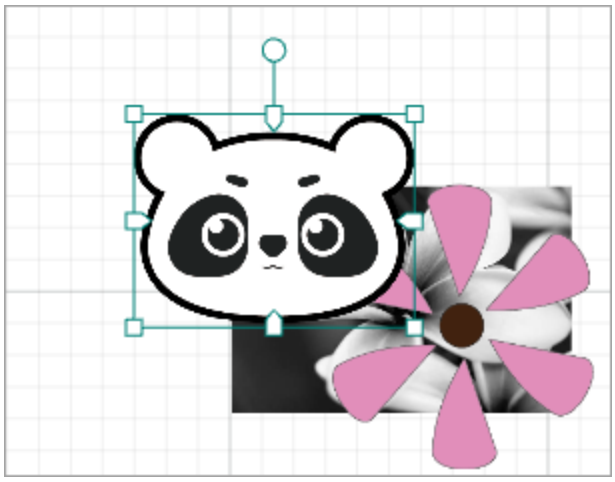
Arrange: arranges the order of elements. You can bring an element to front or send it to back, or bring it forward or send it backward one layer by one layer. For example, to arrange the elements shown in the following figure.



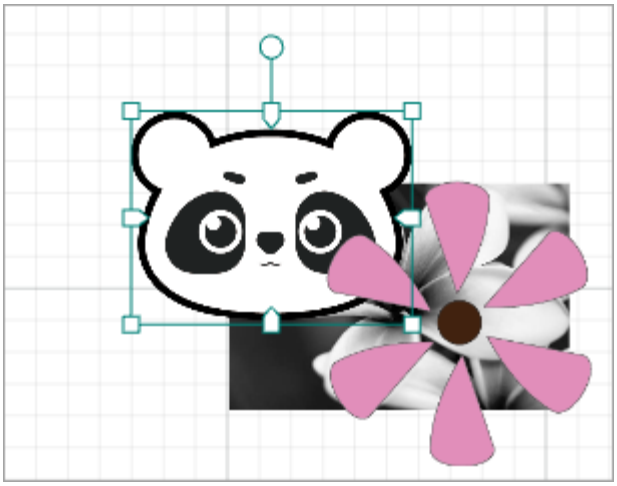
- **Bring forward**



- **Bring to front**



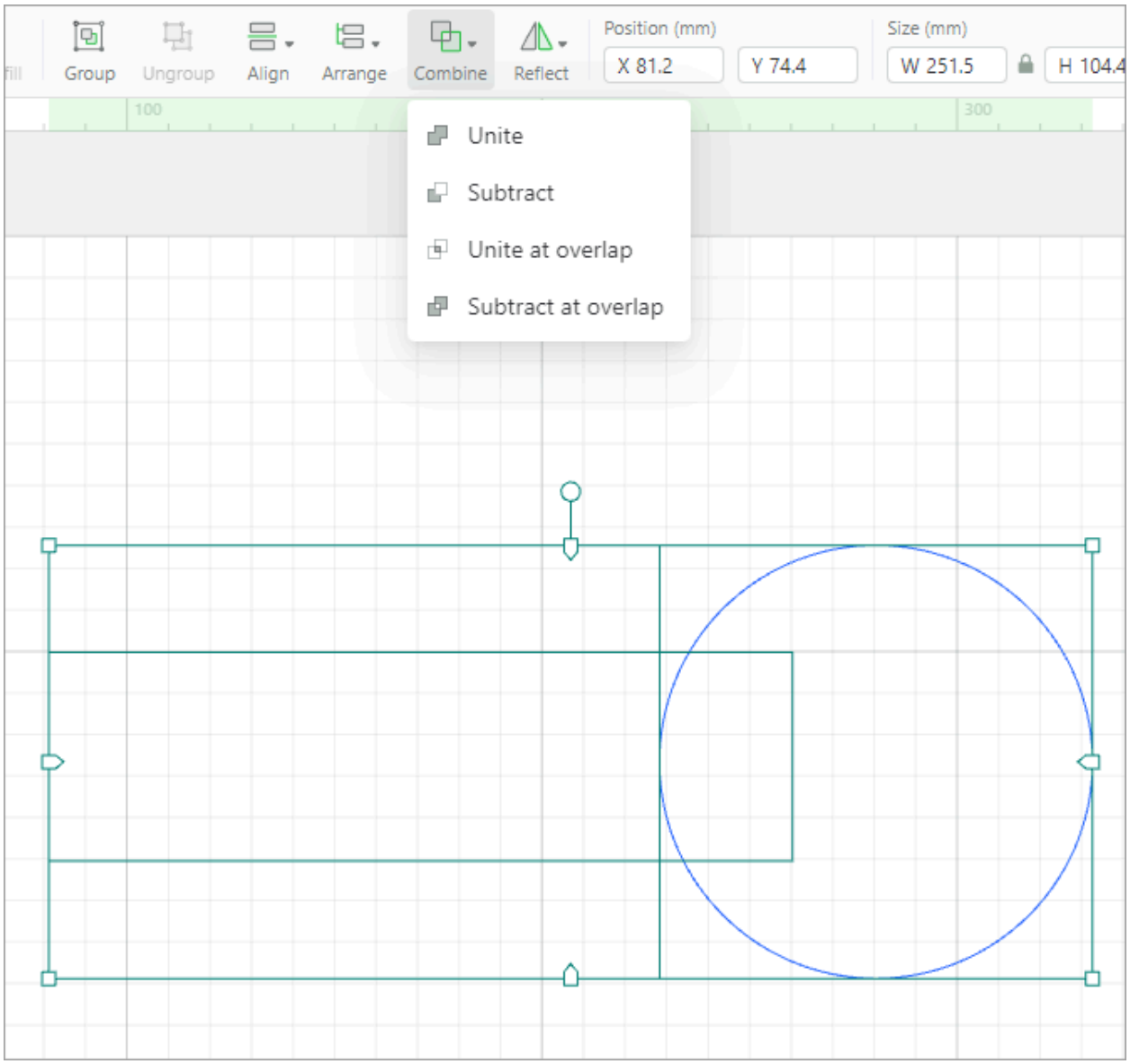
- **Send backward**



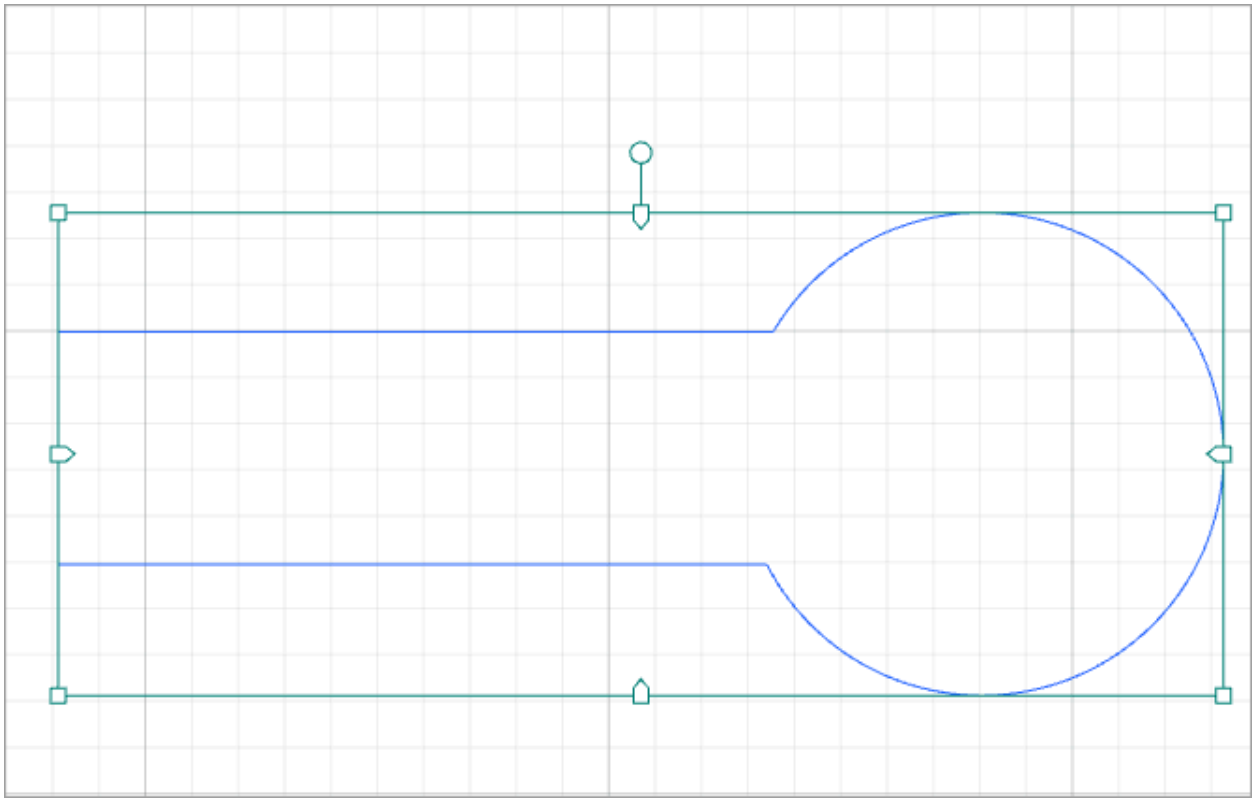
- **Send to back**

Combine

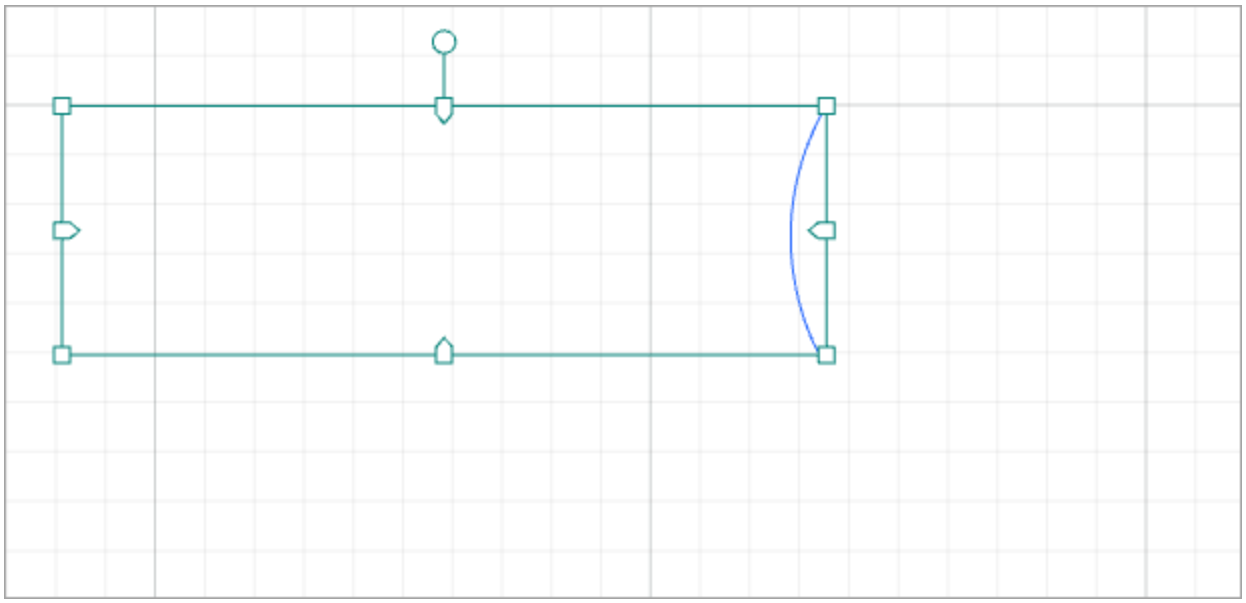
Combine: combines two or more elements



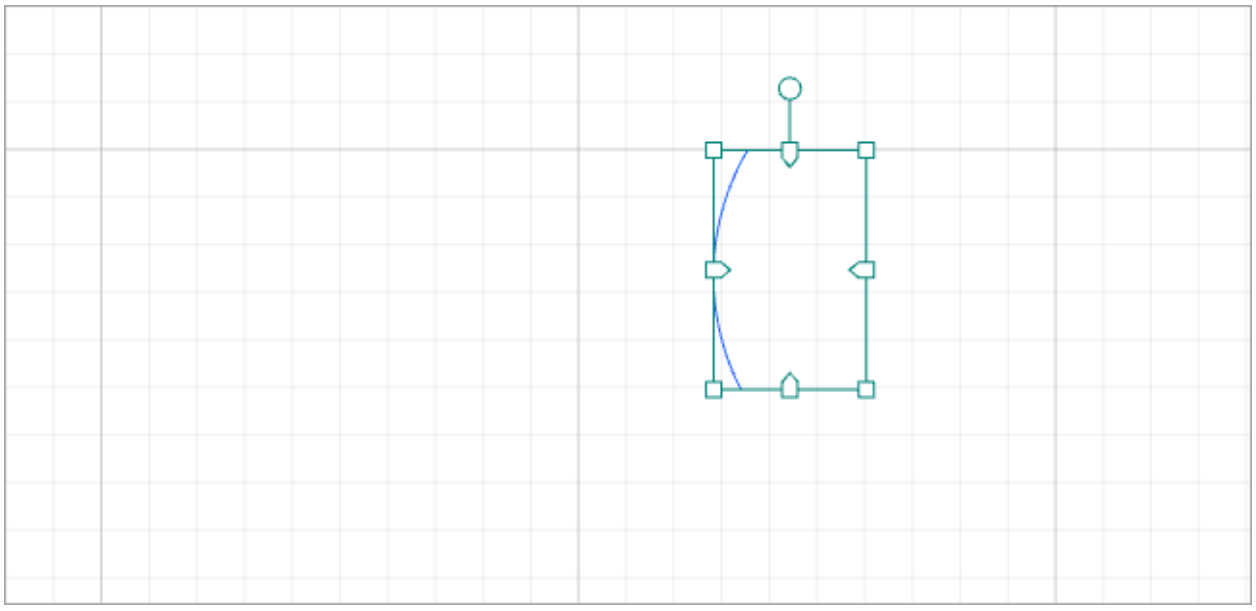
When you unite the two elements:



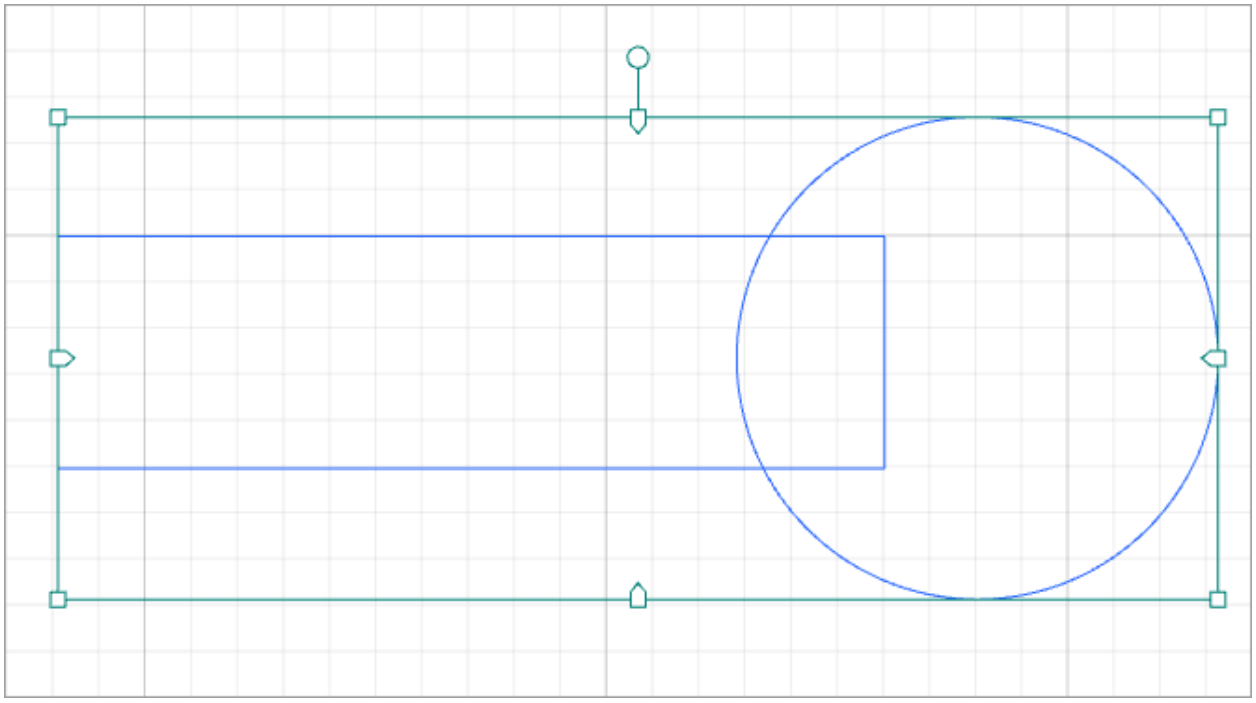
When you subtract the two elements:



When you unite the two elements at overlap:

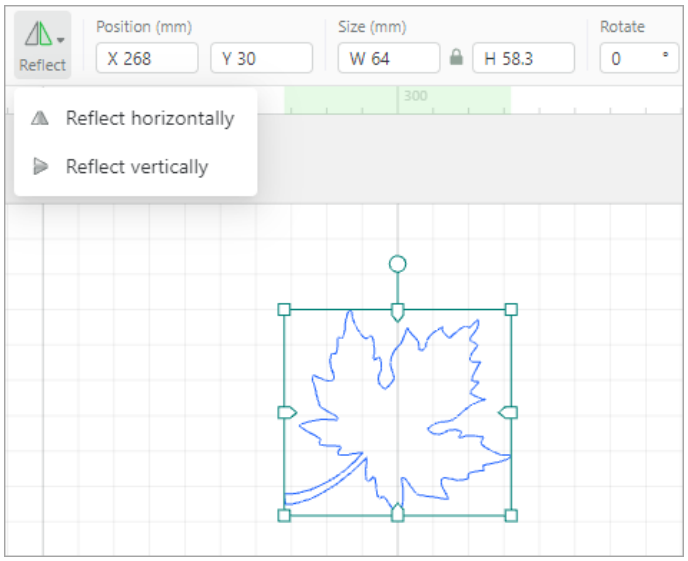


When you subtract the two elements at overlap:

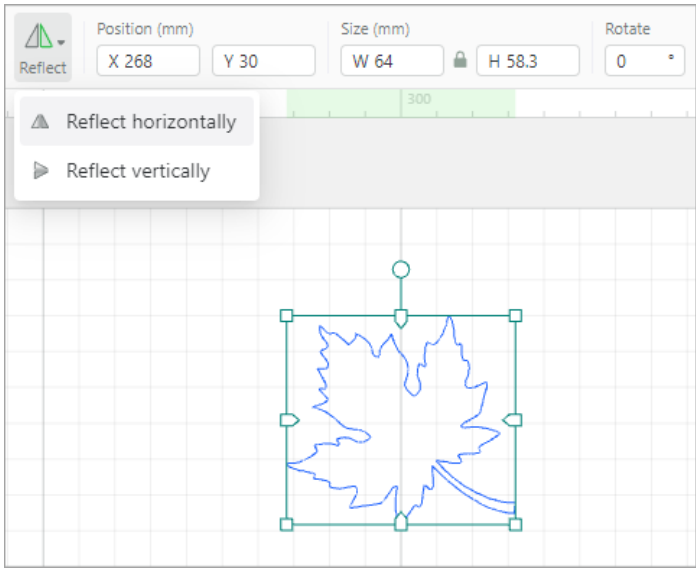


Reflect

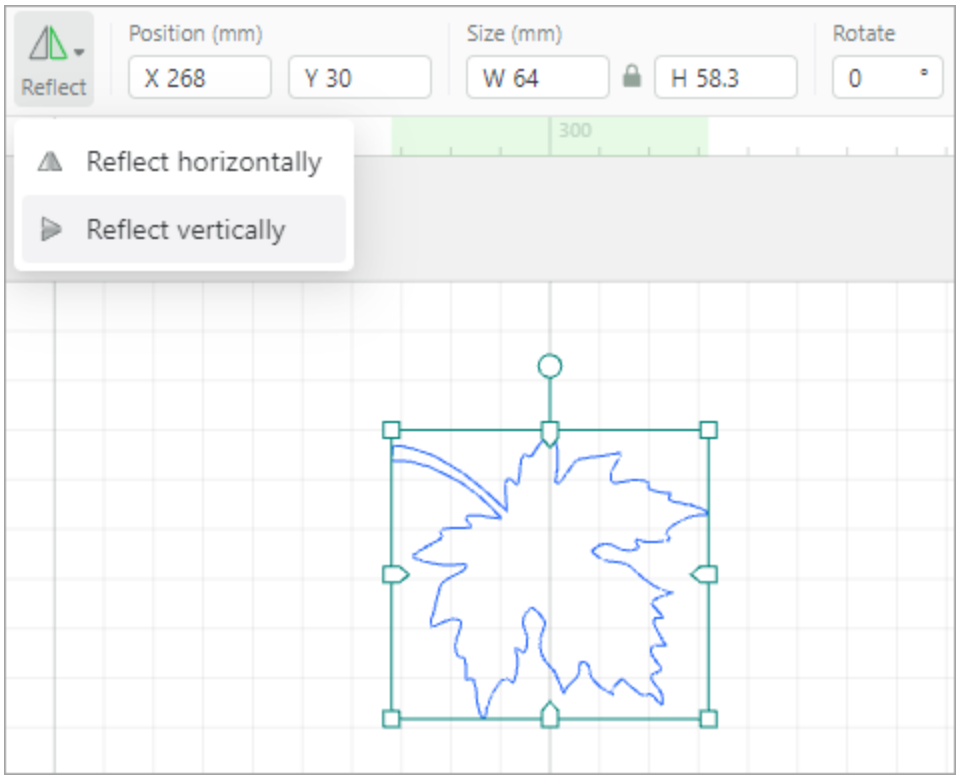
Reflect: reflects an element horizontally or vertically



When you reflect the element horizontally:

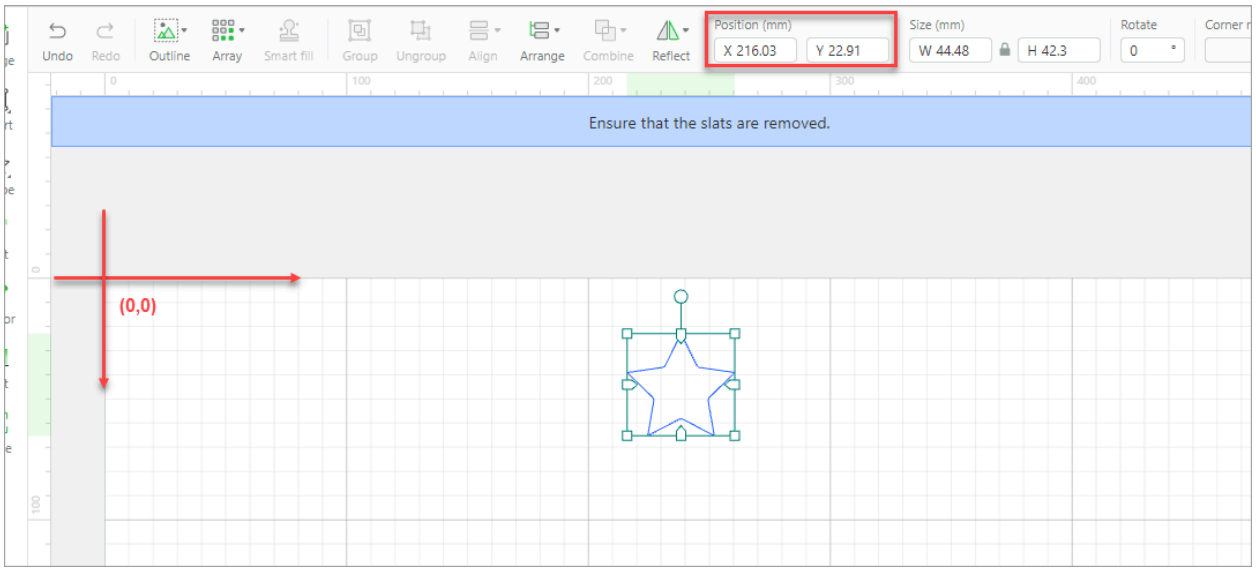


When you reflect the element vertically:


Reflect
Position (mm)
X 268
Y 30
Size (mm)
W 64
H 58.3
Rotate
0
°
300
Reflect horizontally
Reflect vertically

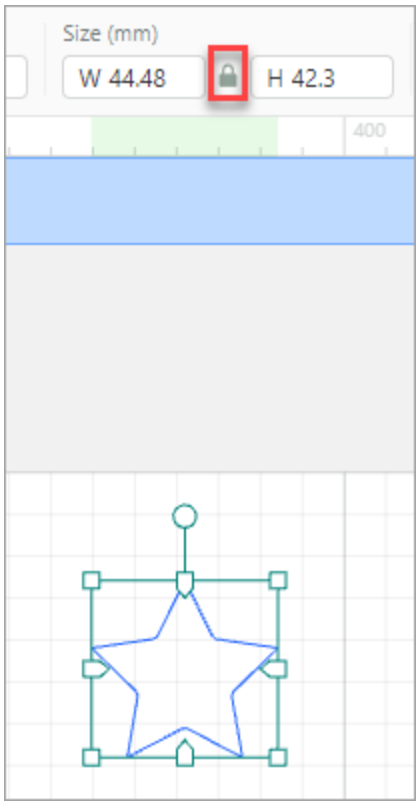
Position

Position: sets the position of an element on the canvas by the x and y coordinates. The point (0, 0) is in the upper left corner. By default, when you insert a shape or import an image, it is positioned in the upper middle of the canvas. The unit can be set in Settings.



Size

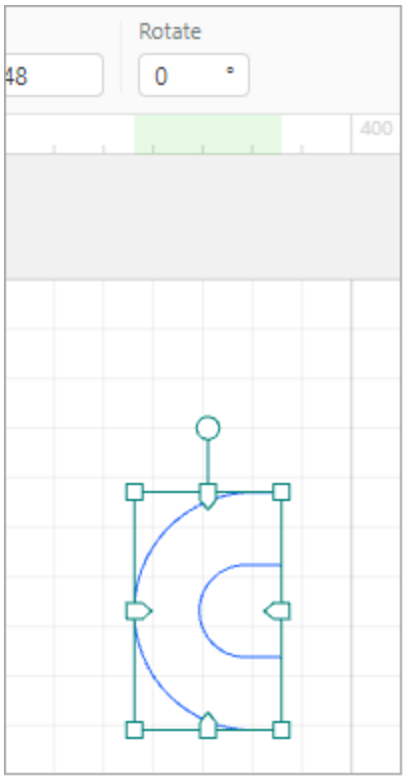
Size: displays or sets the size of an object. The unit can be set in Settings.

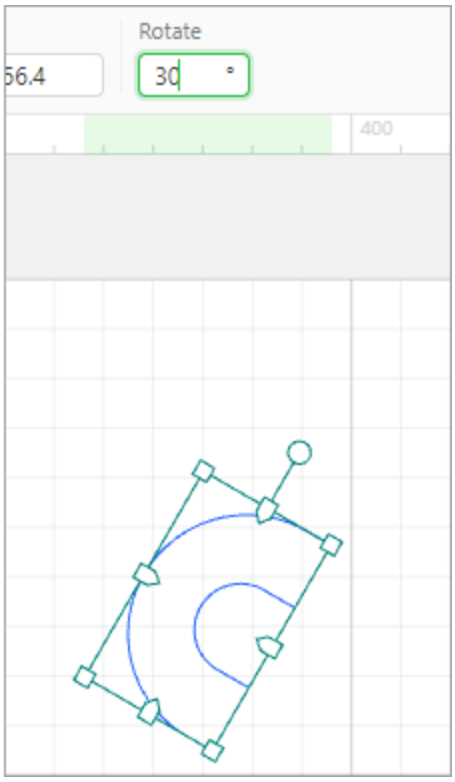


Tips: The width-to-height ratio of an image or element is locked when you import or insert it on XCS. You can click the lock icon to unlock the ratio so that you can change the width and height of the image or element as you like.

Rotate

Rotate: rotate an element by angle. A positive value indicates rotating clockwise, and a negative one indicates rotating counterclockwise.

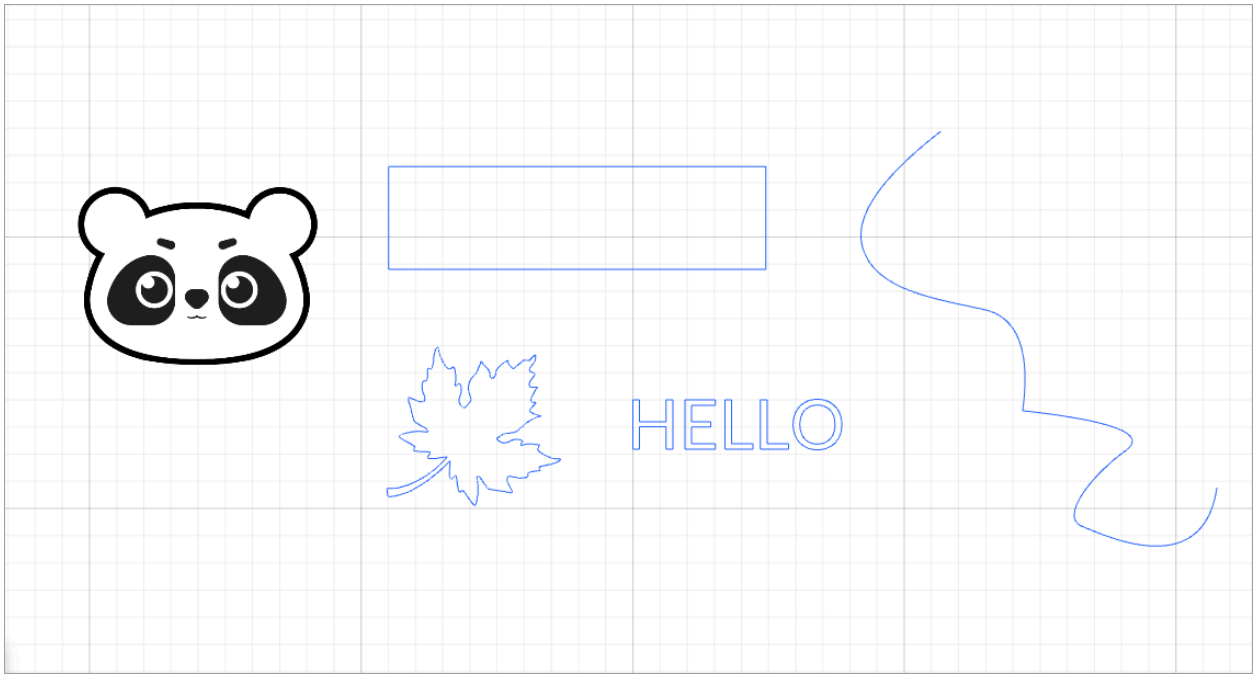

Rotate
48
0
°
400


Rotate
56.4
30
°
400

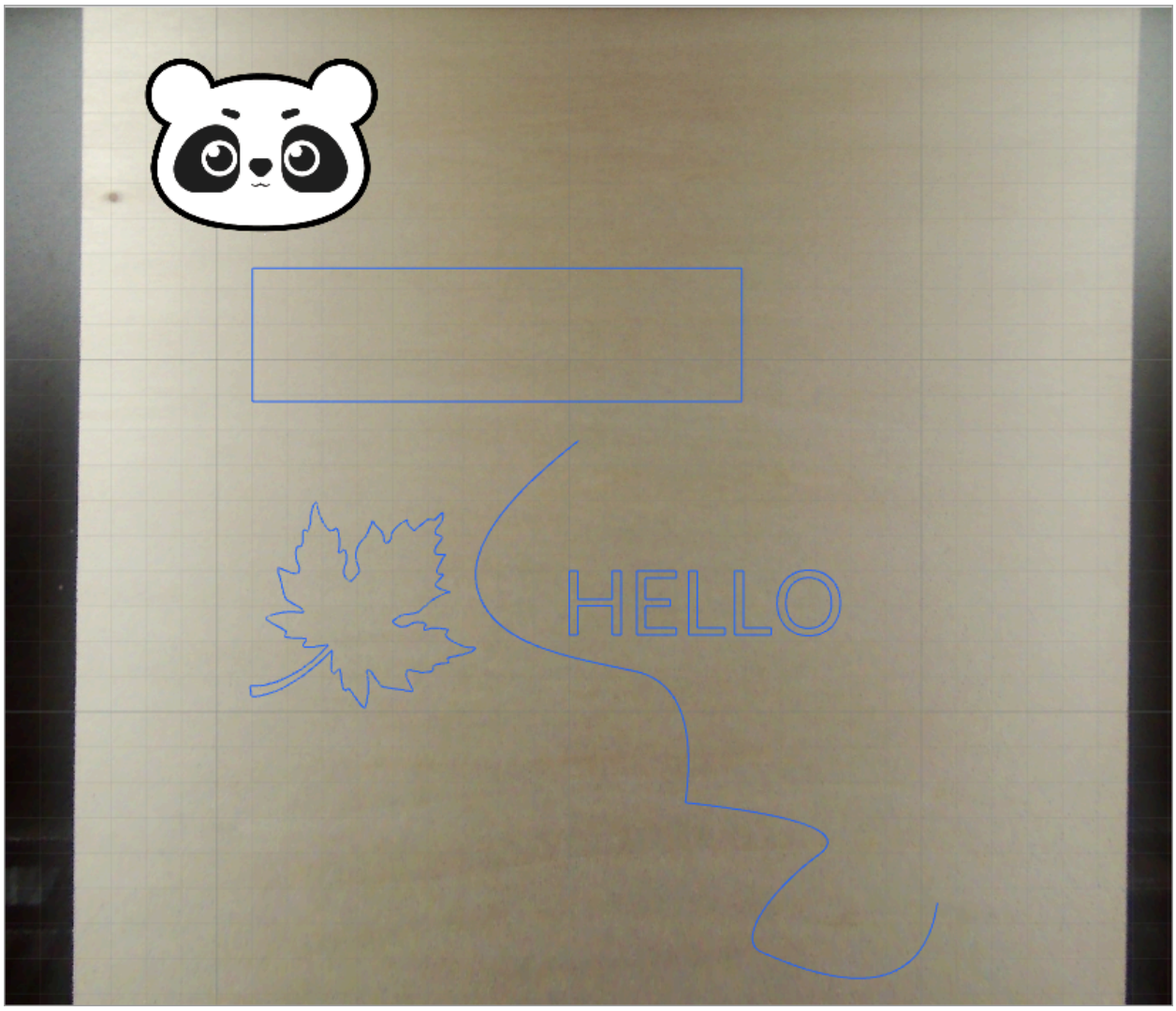
Canvas

Design and edit objects

On the canvas, you can design objects or set and edit an imported image for processing a material.



In addition, if your xTool machine is equipped with a camera, you can preview the positions of the material and objects before processing.



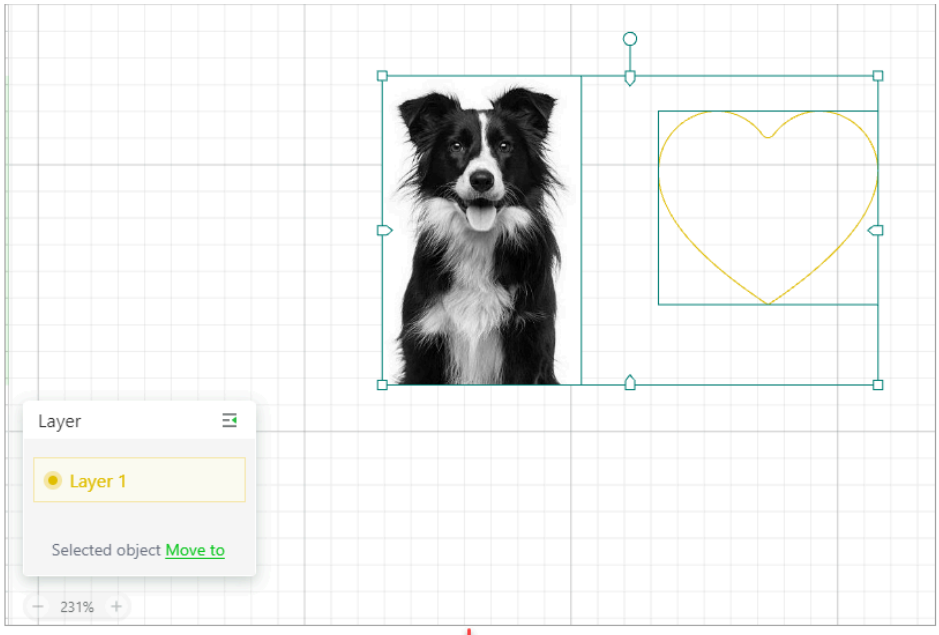
Make clipping mask

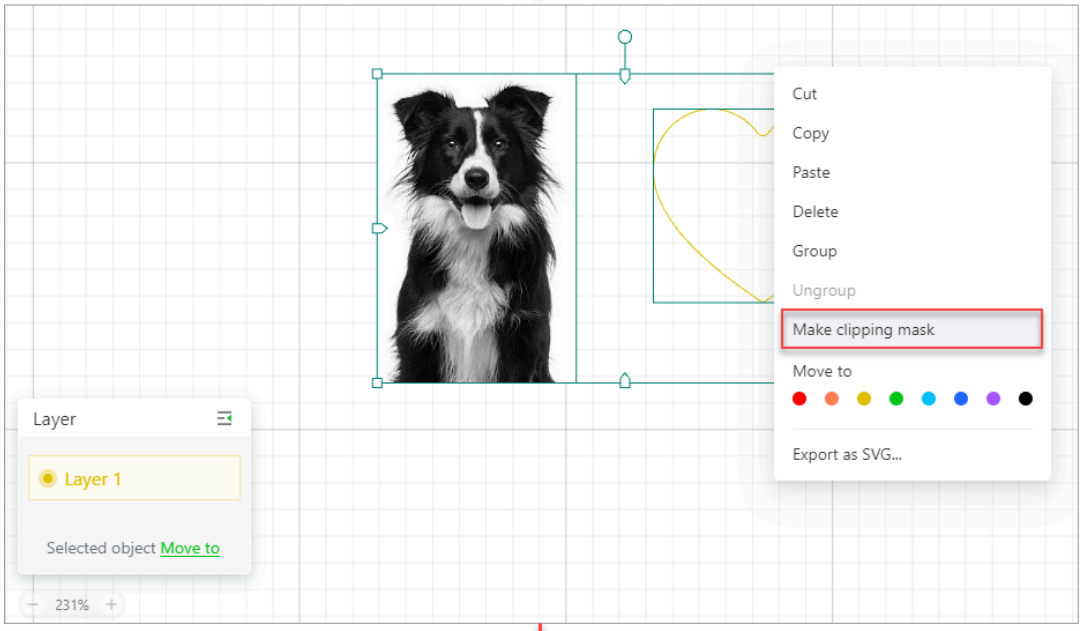
You can shape a bitmap image with a vector path by making a clipping mask.

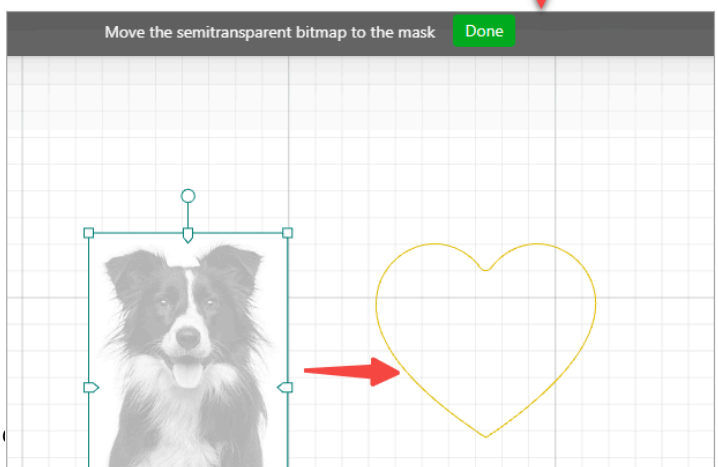
(1) Select the bitmap image and vector path.

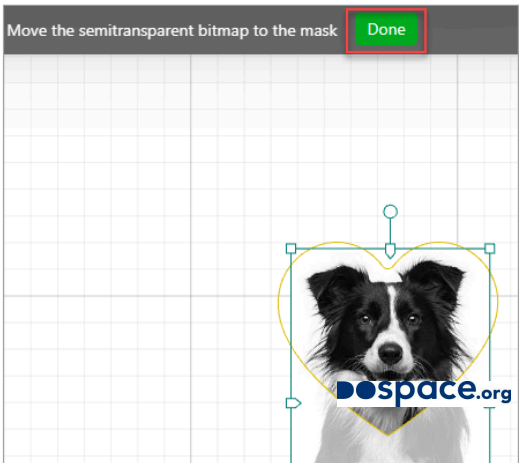
(2) Right-click them and choose Make clipping mask from the shortcut menu.

(3) Move the image to the mask.

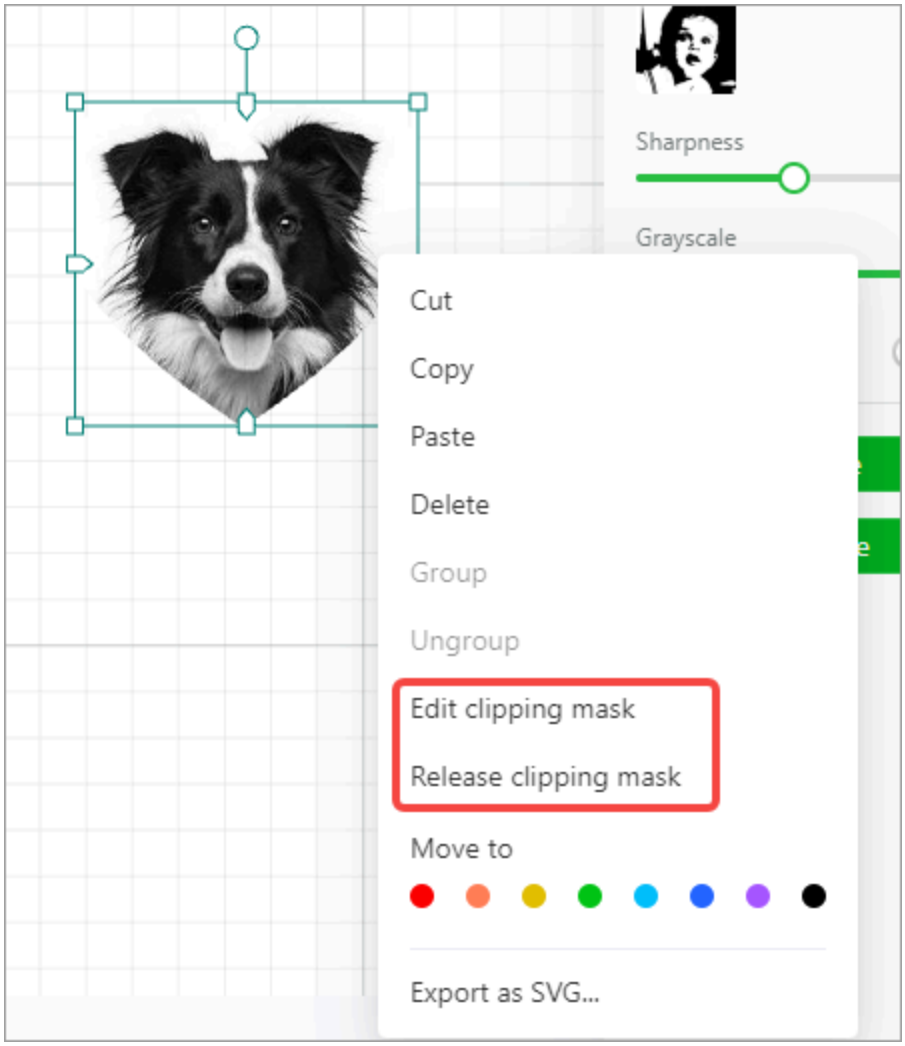

Layer
Layer 1
Selected object Move to
231%


Cut
Copy
Paste
Delete
Group
Ungroup
Make clipping mask
Move to
Export as SVG...
Layer
Layer 1
Selected object Move to
231%


Move the semitransparent bitmap to the mask
Done

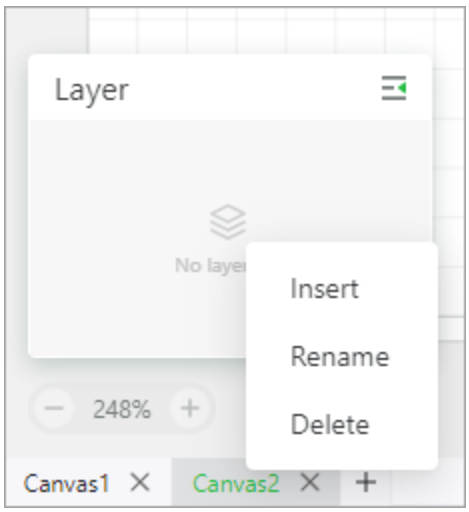

Move the semitransparent bitmap to the mask
Done
DOspace.org

After making a clipping mask, you can edit or release it.



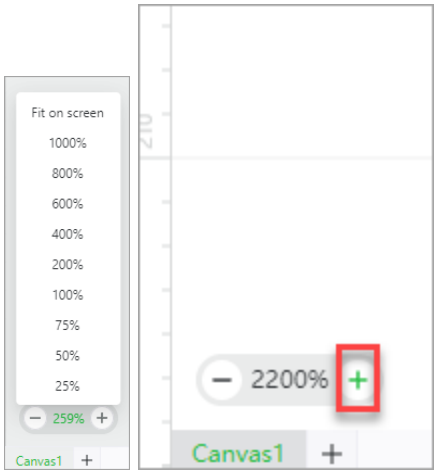
Manage canvases

You can add, delete, or rename a canvas. A project file can include multiple canvases to store multiple objects.



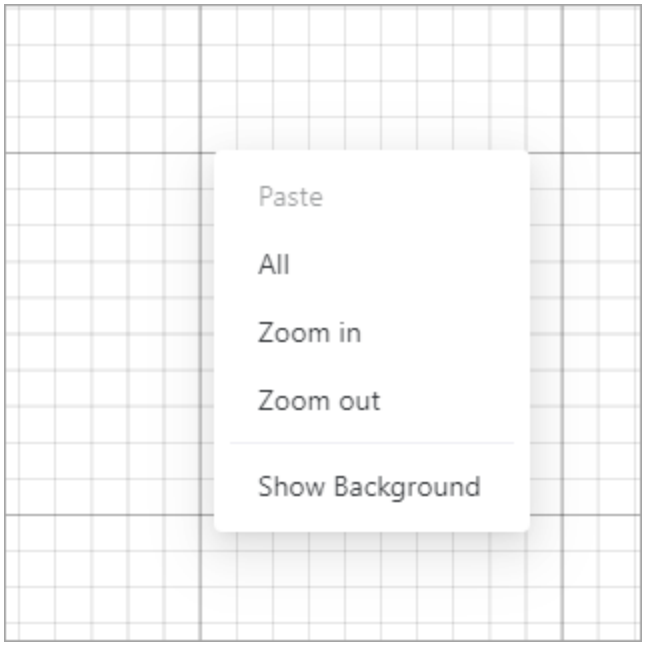
Zoom in/out the canvas

You can zoom in or out the canvas or fit the canvas on screen. The maximum zoom-in scale is 4000%. After setting the scale to 1000%, you can click "+" to further zoom in the canvas.



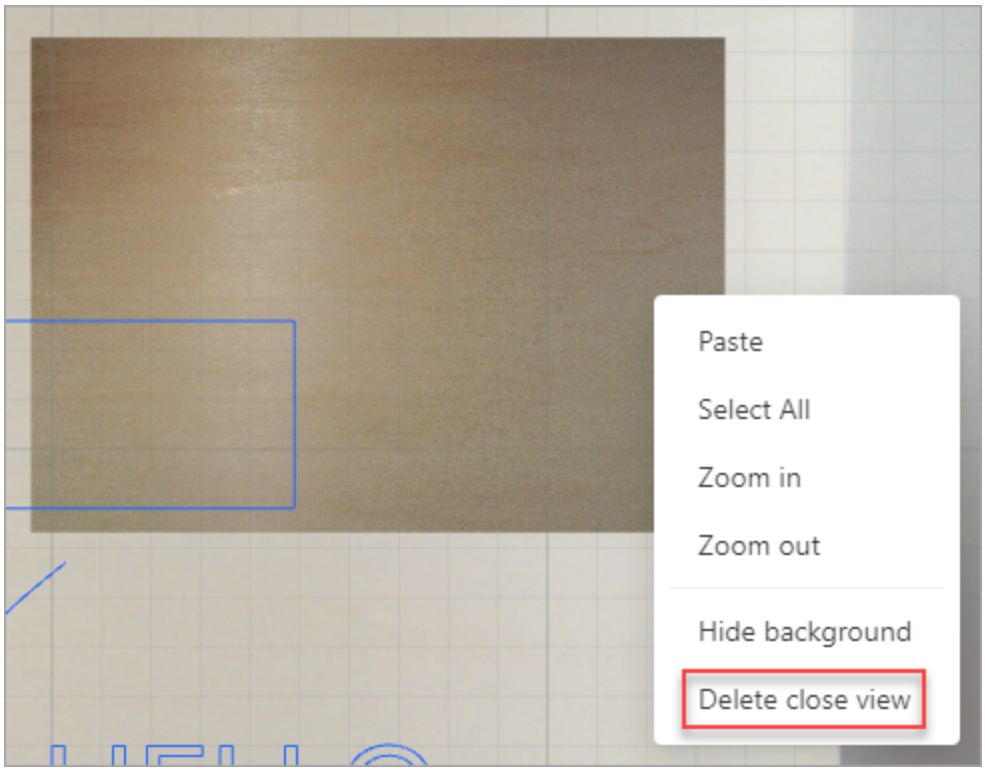
Shortcut menus

When you right-click on the blank space of the canvas, the following shortcut menu is displayed.



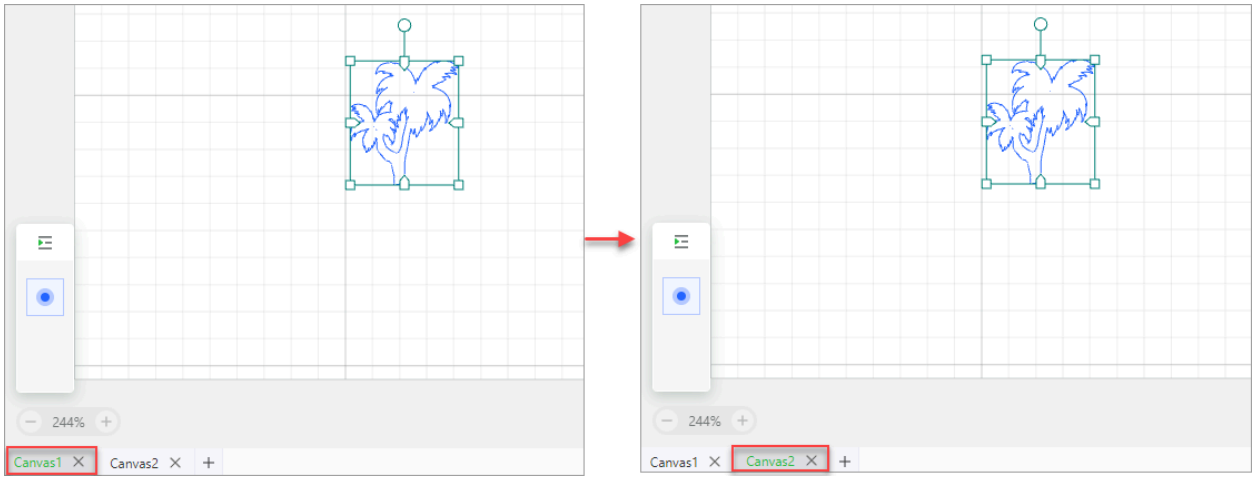
- **Paste: pastes an element that has been copied**
- **All: selects all the elements on the canvas**
- **Zoom in: zooms in the canvas**
- **Zoom out: zooms out the canvas**
- **Show/Hide background: shows or hides the image captured by the camera of a device. After you connect a device with a camera to XCS, this menu is provided to show or hide the image captured by the camera.**

If you use xTool P2 and have captured a close view, you can find the Delete close view shortcut menu.



Copy and paste objects between canvases

You can copy and paste objects between canvases. When you copy an object from a canvas to another one, the object is pasted in the same position of the two canvas.

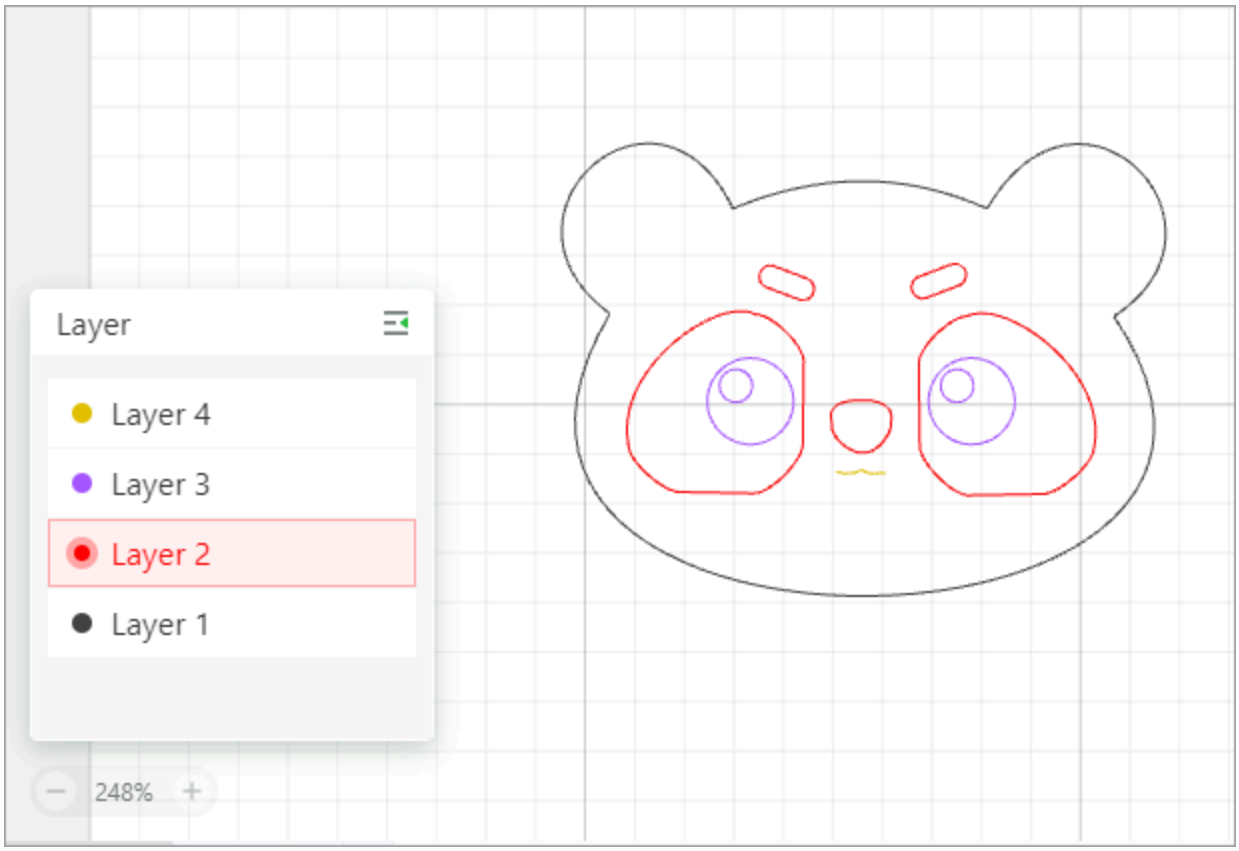


Manage object layers

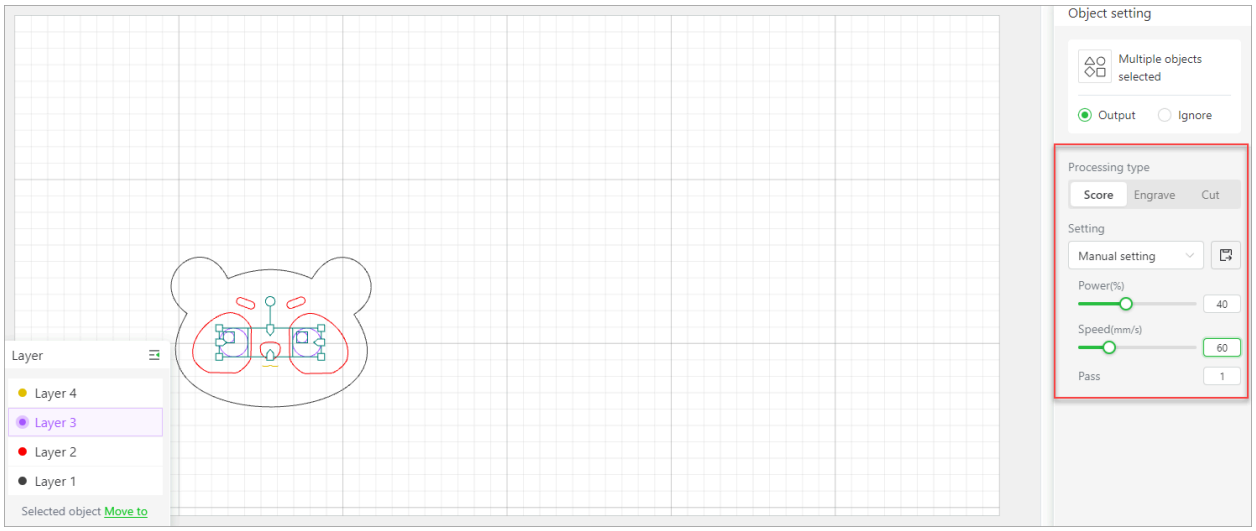
Define objects on a layer

If the object to be processed is complicated, you can define it on multiple layers to manage them more easily.

When you design an image, you can define the objects to be processed in the same way as the same layer, and then you can select them all by clicking the layer and set processing parameters for all of them.

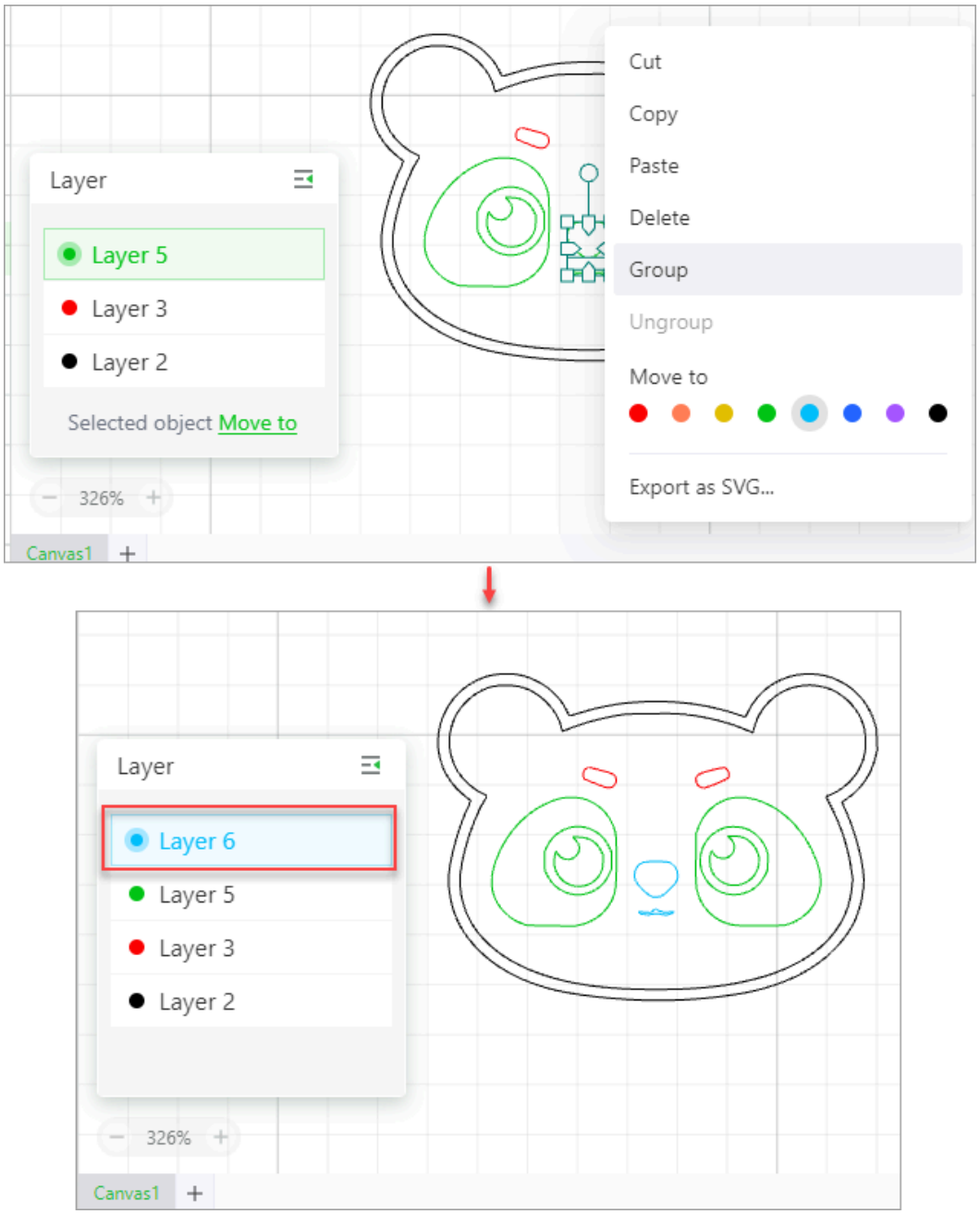


For example, select layer 3 and set the processing parameters for all the objects included in layer 3.



Move objects between layers

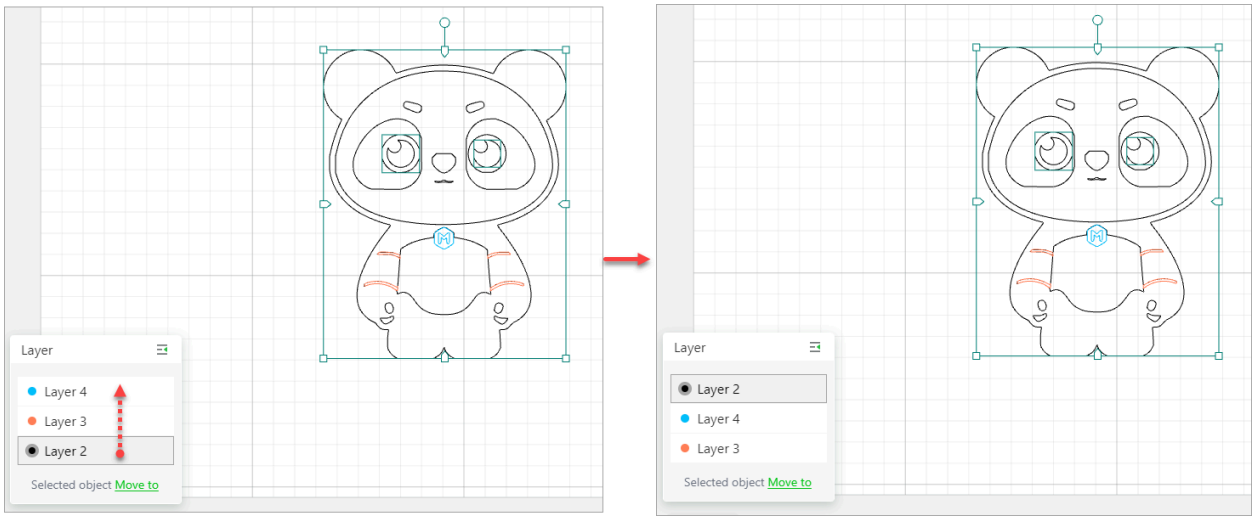
You can move an object to another layer. After the moving, however, you need to set the processing parameters for the object. The settings of the layer do not automatically take effect for it. If you move an object to a new layer, the layer is created.



Tips: When designing a complicated pattern or image, you are advised to set the objects or elements in different colors, so that XCS can define the objects as different layers after you import the image file.

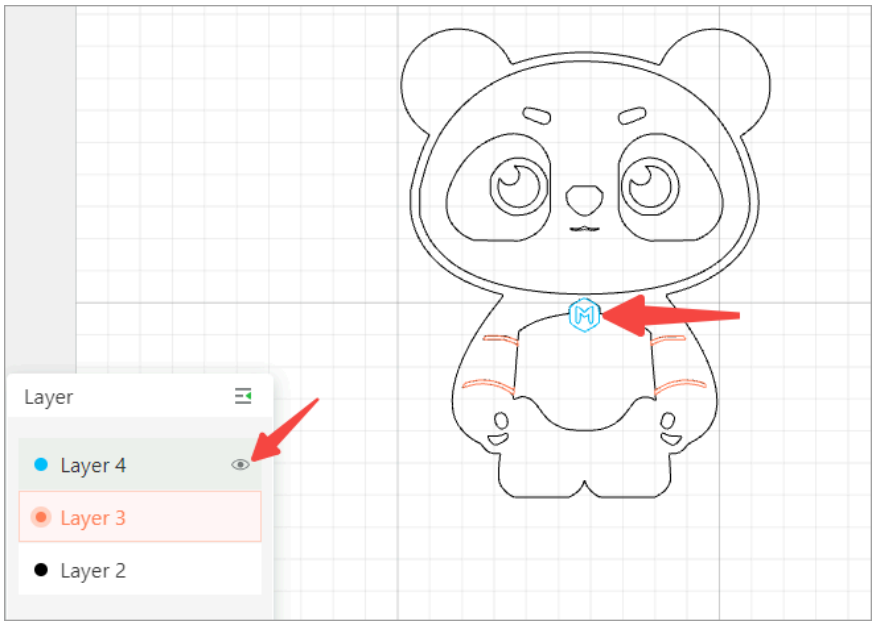
Arrange layers

In addition, you can drag an object layer to move it up or down.

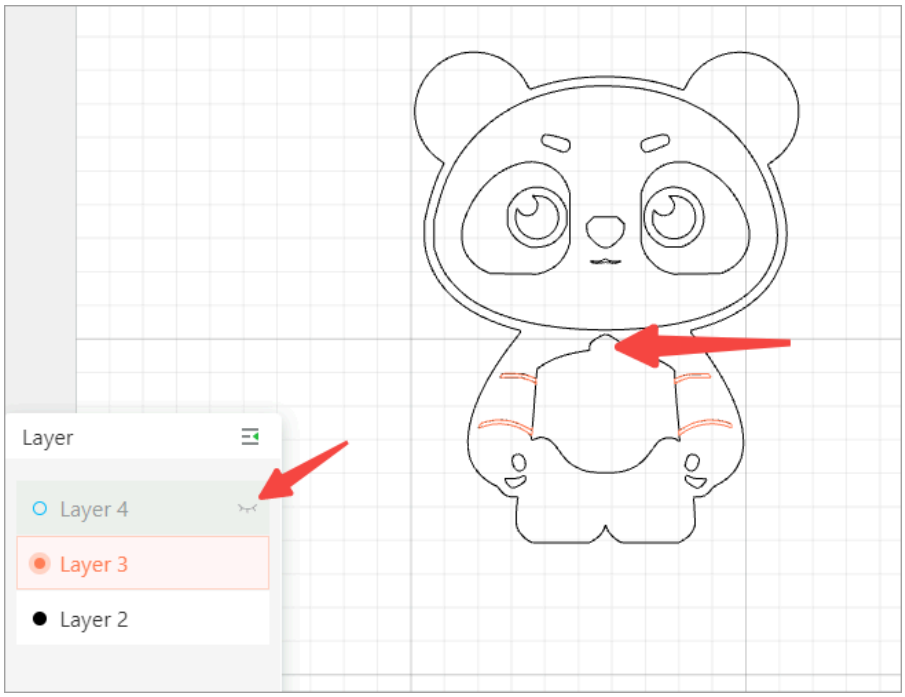


Hide or show a layer

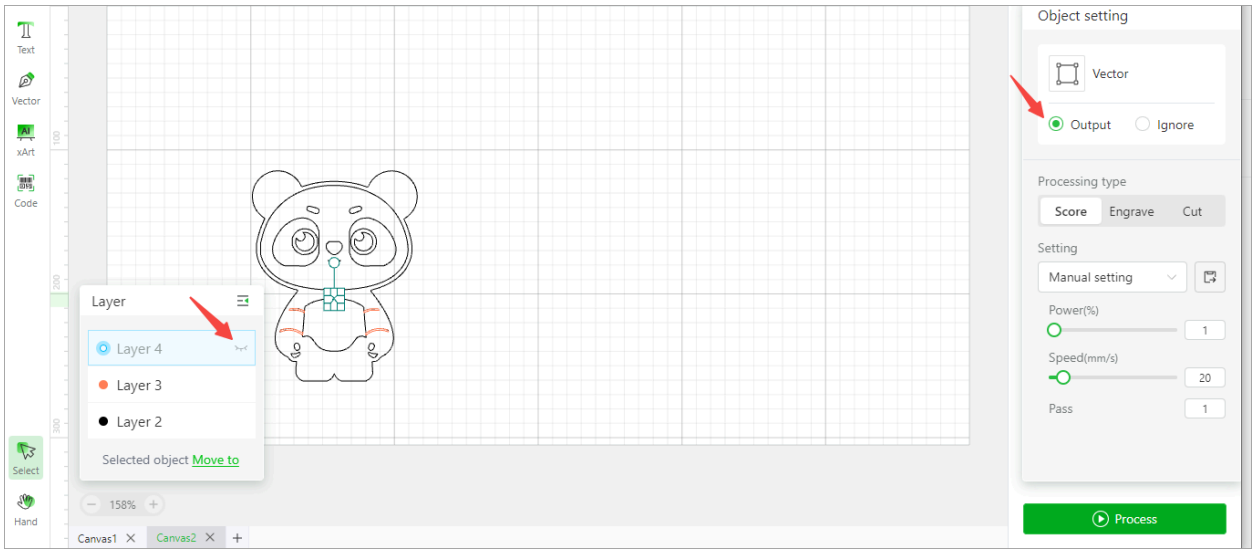
Layer 4 shown



Layer 4 hidden

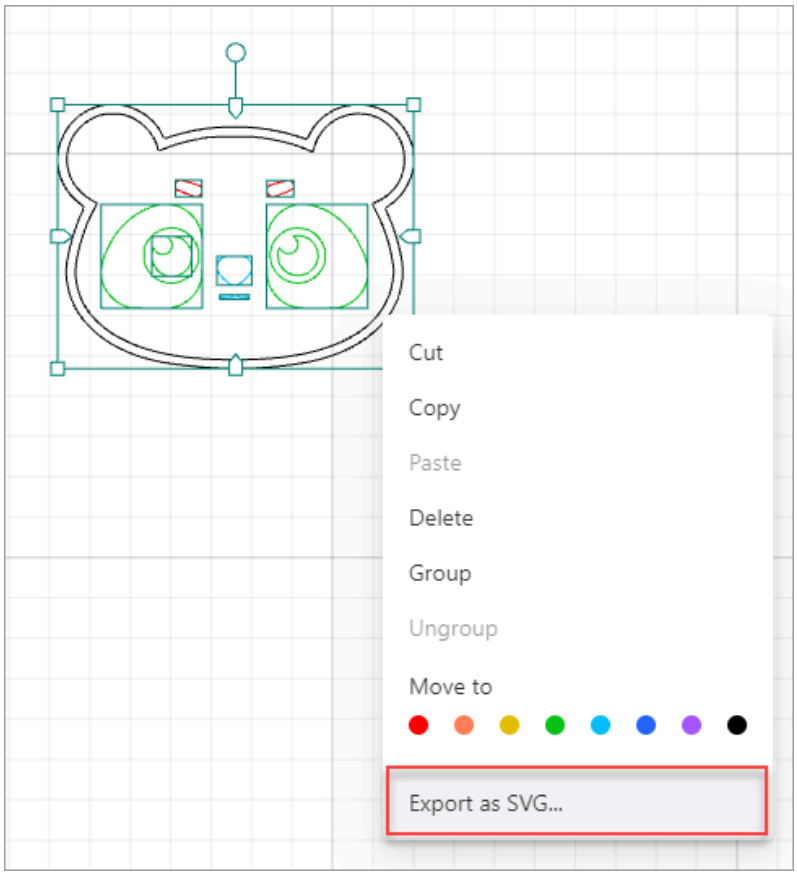


Note: Whether a layer is shown or hidden does not determine whether it is to be processed or not. For example, through layer 4 is hidden, it will be processed since it is set to Output.



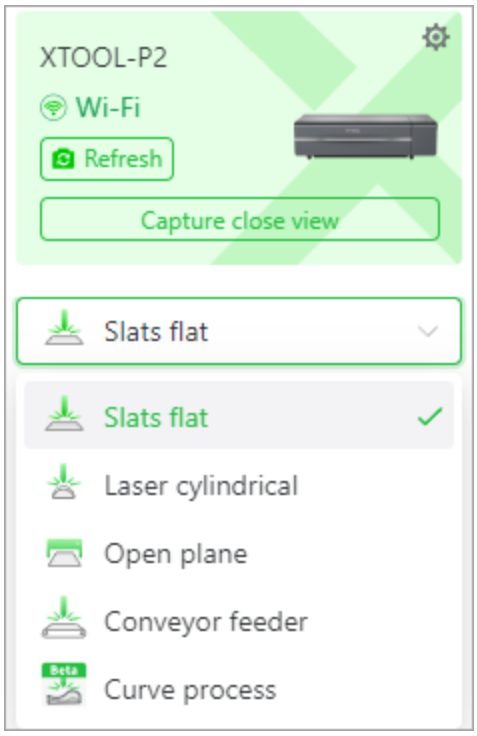
Export objects as an SVG file

On a canvas, you can select one or more objects and export them as an SVG file.



Processing modes

XCS supports multiple processing modes for xTool P2.



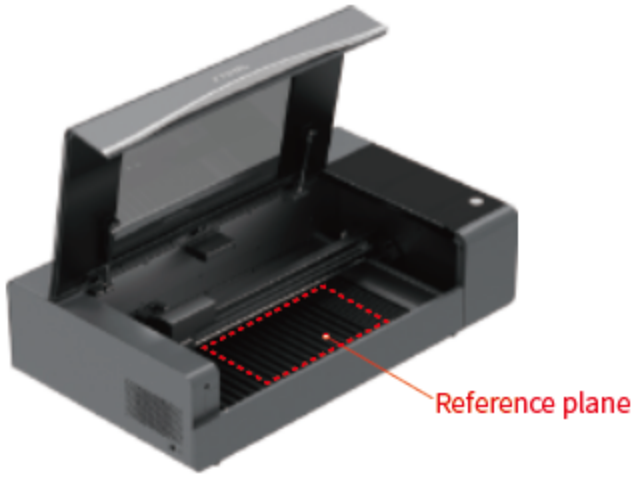
The processing modes are described as follows:

- Slats flat: to process flat materials with the slats in place
- Laser cylindrical: to process regular or irregular cylindrical materials

In this mode, you need to use xTool Rotary Attachment. (Coming soon)

- Open plane: to process thick materials

In this mode, XCS allows you to place the material surface to be processed below the reference plane, that is, the plane formed by the upper sides of the slats.



- Conveyor feeder: to process long flat materials

In this mode, you need to use xTool Conveyor Feeder.

- Curve process: to process materials curved surfaces

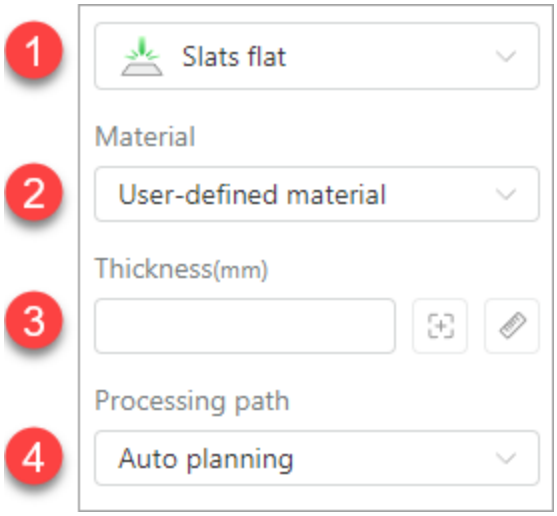
Currently, this is a beta function and is being improved. In this mode, you need to remove all the slats and can measure a curved area on a material and map objects onto the area before processing the material.

Processing settings

Note:

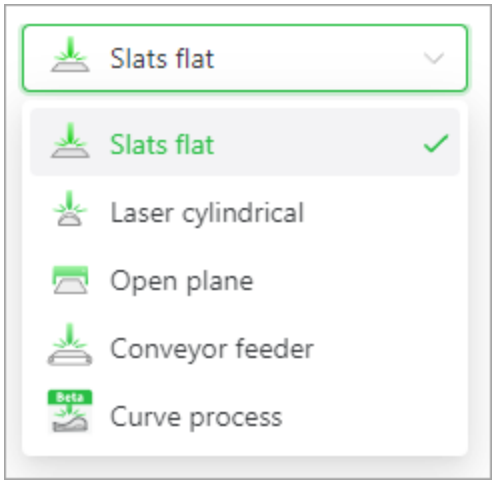
- If you use a material launched by xTool, you can select it from the material list and use the default parameter settings.
- If you use a material produced by another manufacturer, you can modify the parameters based on the settings recommended for xTool materials or your own tests.

Material settings



① Processing mode

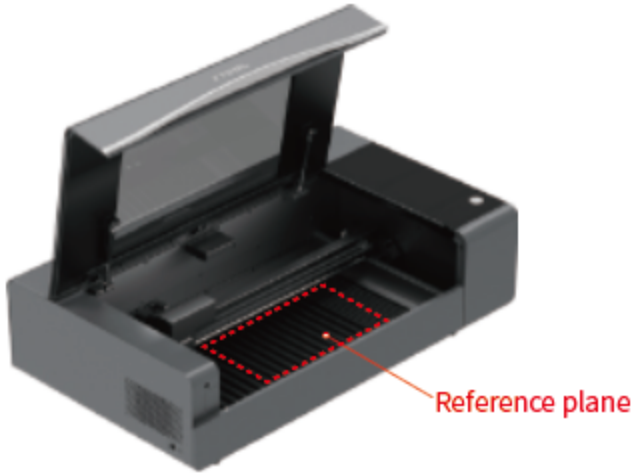
You need to choose a processing mode based on your material.



The processing modes are described as follows:

- Slats flat: to process flat materials with the slats in place
- Laser cylindrical: to process regular or irregular cylindrical materials
- Open plane: to process thick materials

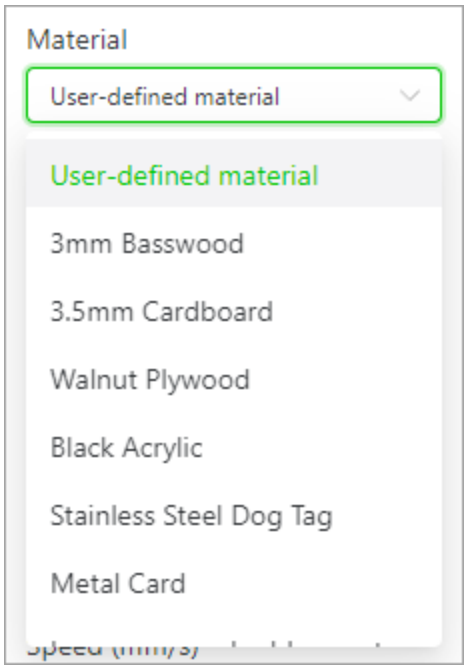
In this mode, XCS allows you to place the material surface to be processed below the reference plane, that is, the plane formed by the upper sides of the slats.



- Conveyor feeder: to process long flat materials (coming soon)
- Curve process: to process materials curved surfaces

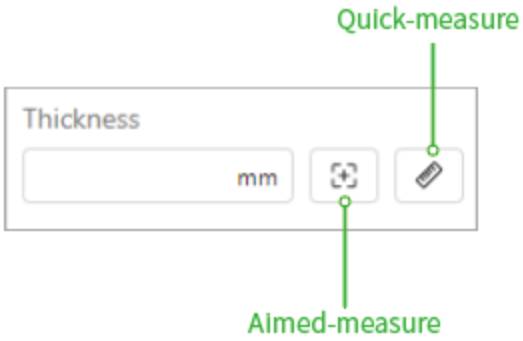
Currently, this is a beta function and is being improved. In this mode, you need to remove all the slats and can measure a curved area on a material and map objects onto

② Material



If you use a material launched by xTool, select your material from the drop-down list box. If you use one purchased from another manufacturer, set it to User-defined material, and set the processing parameters based on those recommended for xTool materials or your own tests.

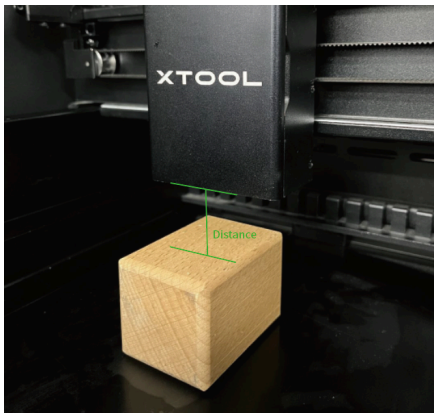
③ Thickness / Distance



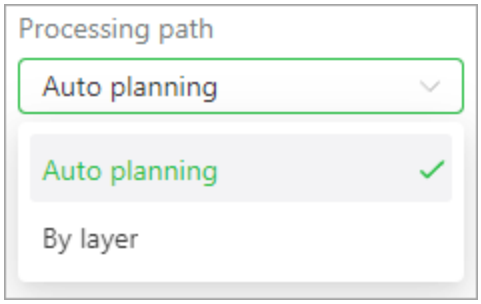
If you use a user-defined material, you can click Quick-measure to enable XCS to measure the thickness of the material. To measure the thickness of the material in a specified area, you can click Aimed-measure and select the area to be measured. If the automatic measurement fails, use a caliper to measure it and enter its thickness.

In some processing modes, such as Open plane and Flat cylindrical, you can see the parameter Distance, which means the distance between the upper surface of a material and the bottom of the laser module.

If auto-measure fails, you can measure the distance and enter it on XCS.



④ Processing path

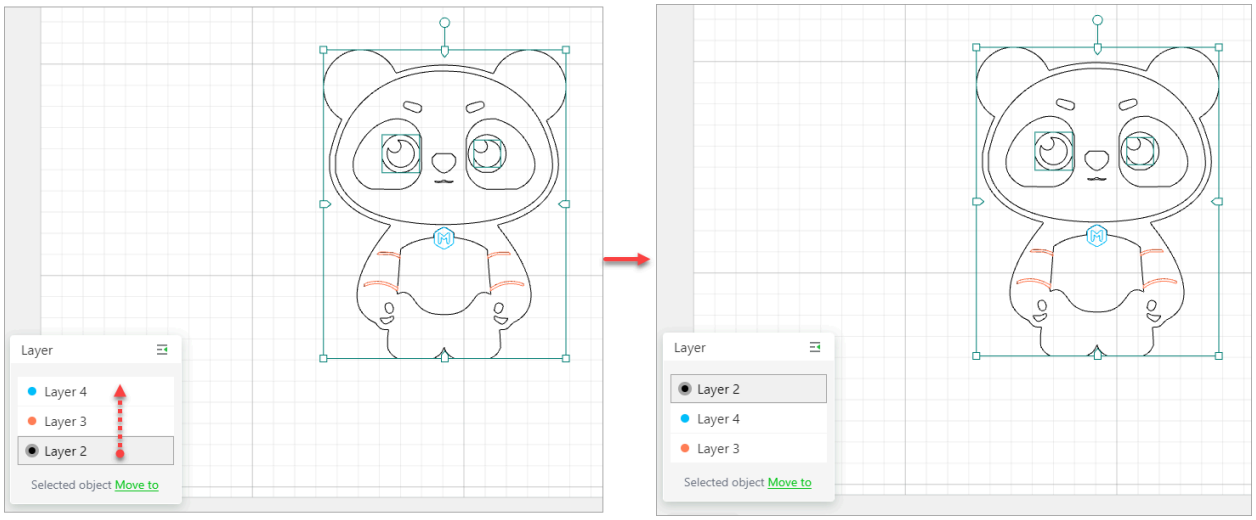


You can set the processing path to auto planning or by layer.

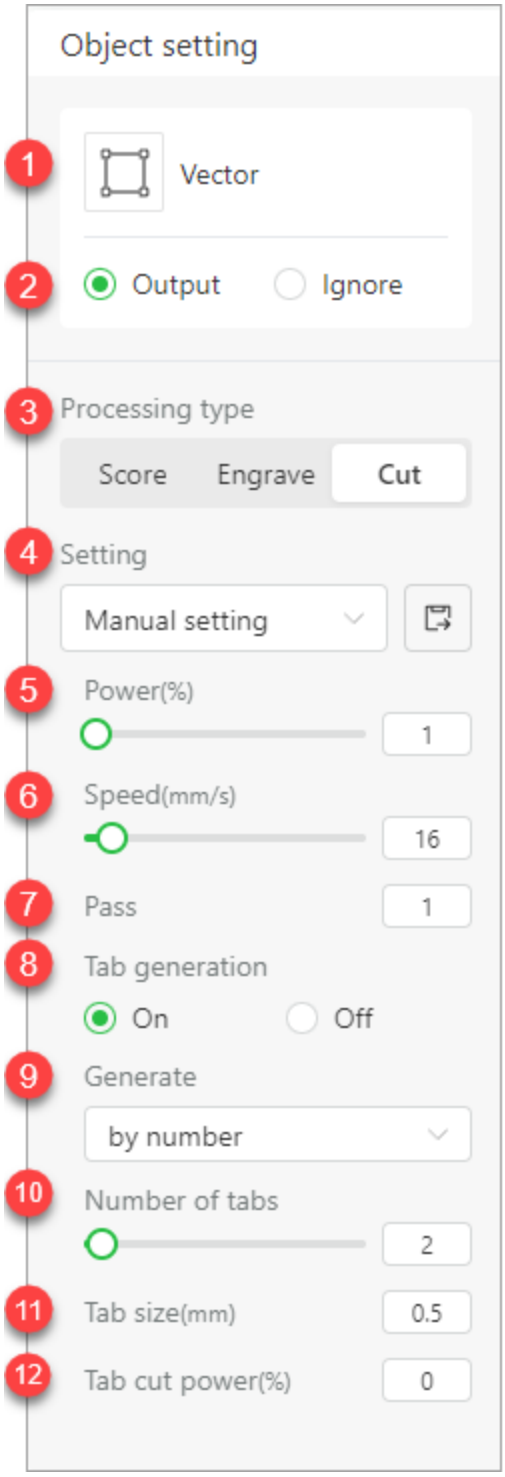
Auto planning: Objects are processed based on the default processing path algorithm. Generally, objects are engraved first and then cut.

By layer: Objects are processed one layer by one layer, from top to bottom.

You can drag an object layer to move it up or down.



Vector Settings



① Object type

Displays the type of the selected object, either vector or image

② Output or Ignore

Sets whether an element is to be processed

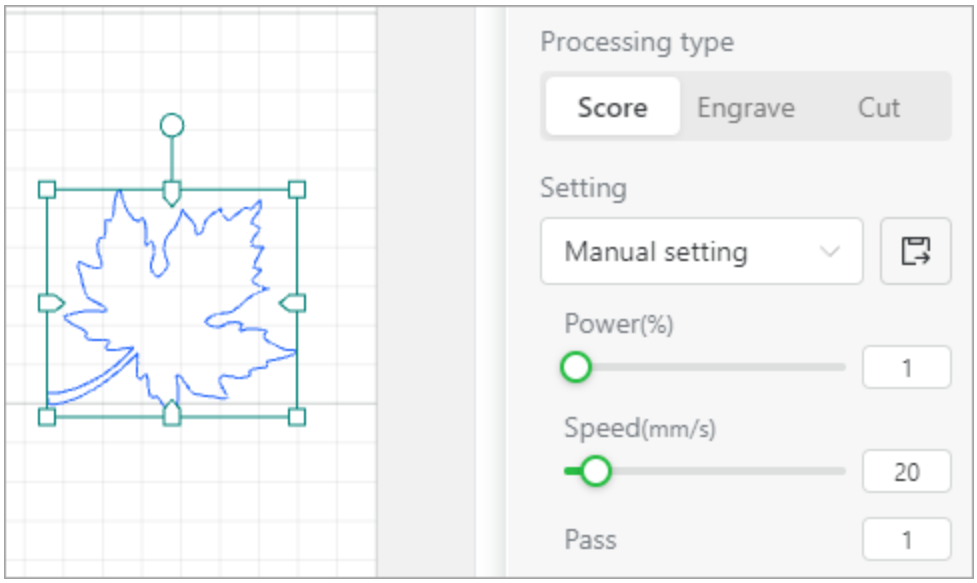
When you select an element and select Output, the element is to be processed. When you select Ignore, the element will not be processed.

③ Processing type

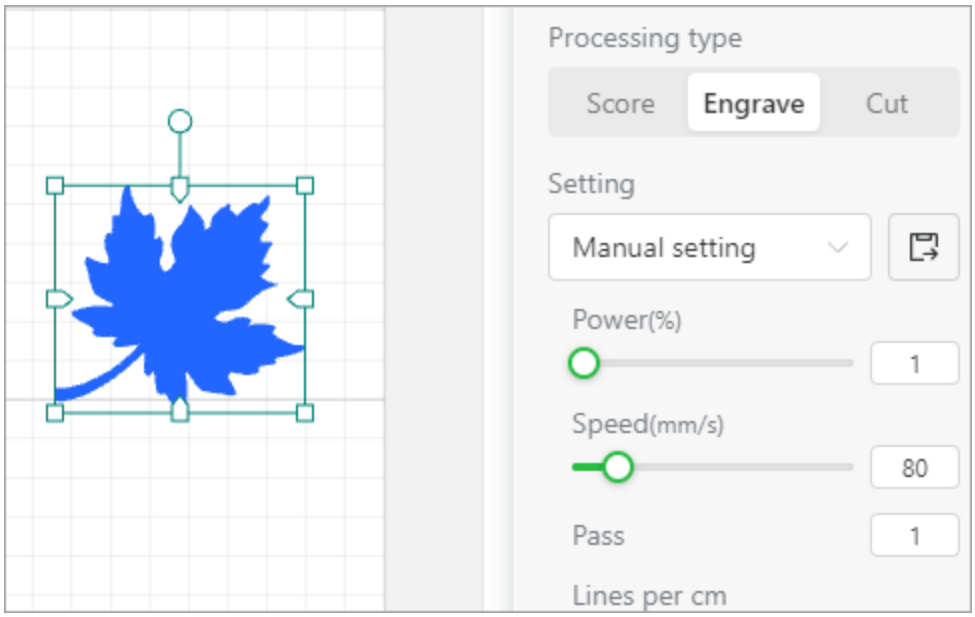
Sets the processing type of the selected object

The processing types are described as follows:

- Score: engraves only the outline of an element

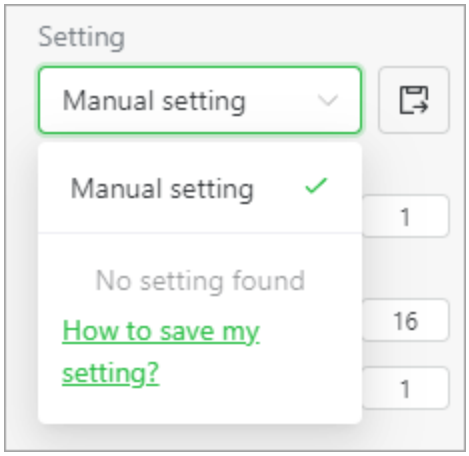


- Engrave: engraves the fill of an element



- Cut: cuts the outline of an element

④ Setting selection



Selects a setting

A setting is a set of parameters (including power, speed, and pass) you've set. After you set the parameters, you can save them as a custom setting, and all the settings saved will be displayed in the Setting drop-down list box. When you select Manual setting, you

need to set the parameters one by one. When you select a setting, the parameter values you saved before can be used.

Power

Sets the processing power

Speed

Sets the processing speed

Pass

Sets the number of processing times

Tab generation

Turns on or off tab generation

Generate

Sets the tab generation mode, by number or spacing

Number of tabs / Tab spacing

- Sets the number of tabs to be generated when you set the tabs to be generated by number. You can preview the tabs in the processing preview window,
- Sets the spacing between tabs when you set the tabs to be generated by spacing. You can preview the tabs in the processing preview window,

Tab size

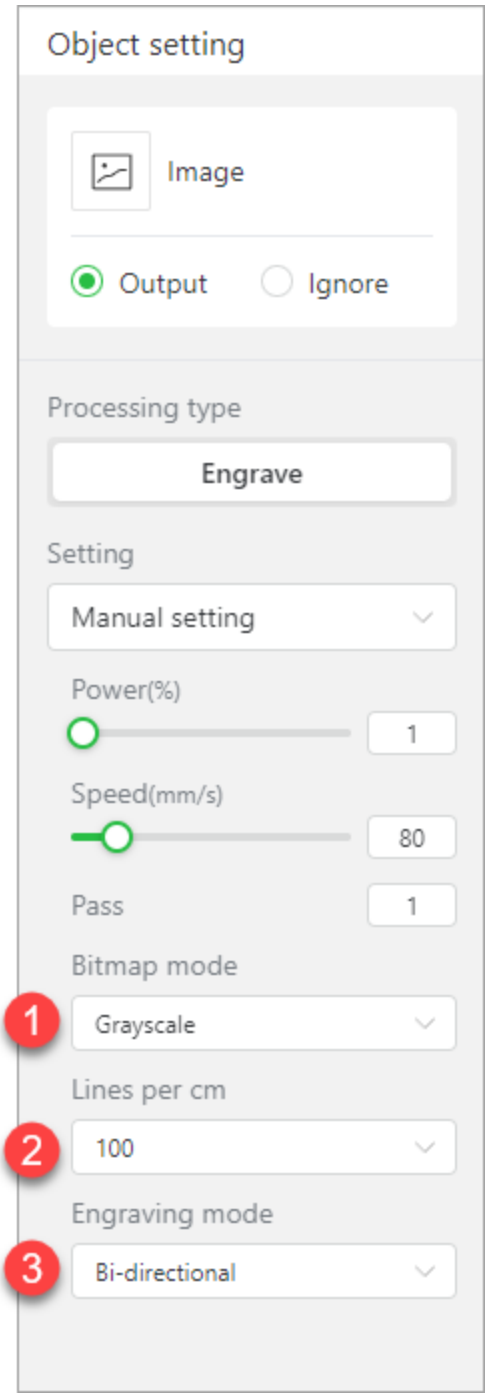
Sets the size of a tab.

Tab cut power (%)

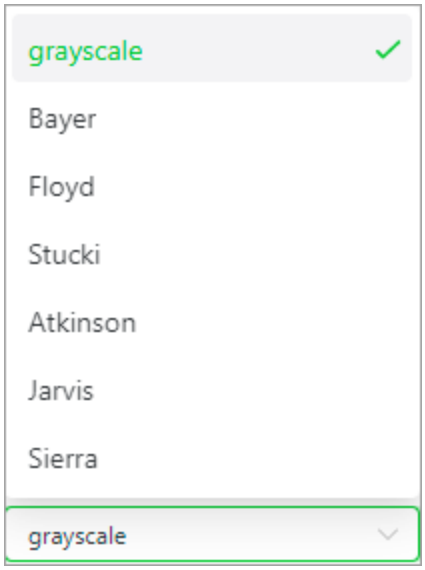
Sets the power for processing the tabs.

Bitmap settings

For bitmap processing, additional settings are provided.



① Bitmap mode



XCS provides multiple bitmap modes, including Grayscale, Bayer, Floyd, Stucki, Atkinson, Jarvis, and Sierra. The default mode is Grayscale.

- Grayscale

Transforms an image into one of the shades of gray mode, in which a pixel is formed by a shade of gray that can be the darkest one (black), the brightest one (white), or one between them. The darker the pixel, the deeper the engraving.

- Bayer

Transforms an image into one in Bayer mode, which looks like adding a grid mosaic filter on the image.

- Floyd

Dithers an image by using the Floyd algorithm that diffuses the error only to the neighboring pixels, producing find-grained wave-like patterns on the image. It is recommended for highly-detailed images instead of those containing monotone swatches of color.

- Jarvis

Dithers an image by using the Jarvis algorithm that diffuses the error to 12 pixels around a pixel. Compared with Floyd, the transitions between pixels are slower, which produces a very nice looking pattern on almost all images.

- Stucki

Dithers an image in a similar way to Jarvis. Compared to Jarvis, the transitions between pixels are faster, which produces clean and sharp images.

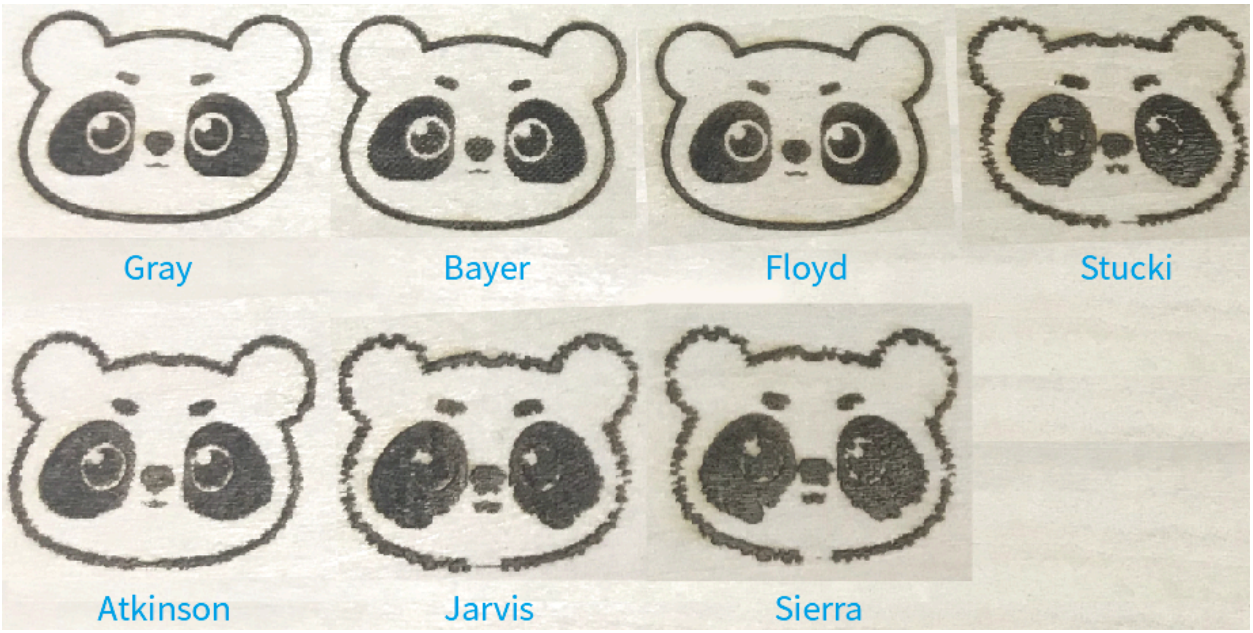
- Sierra

Implemented based on the Jarvis algorithm, achieving a similar effect while producing sharper images.

- Atkinson

Dithers an image in a way similar to Jarvis and Sierra while producing sharper images. The Atkinson algorithm can preserve the details of an image well but the very dark or bright area may look disappeared.

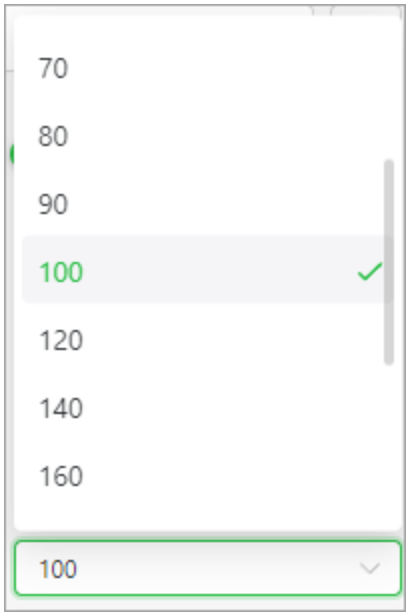
With the other settings unchanged, the output of an image on a wooden board varies according to image mode, as shown in the following figure. You can select a mode as required.

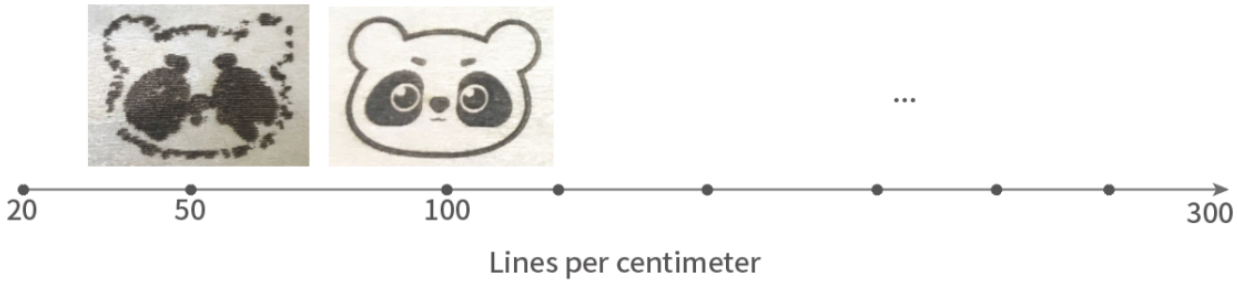


② Lines per cm

Sets the number of lines in one centimeter

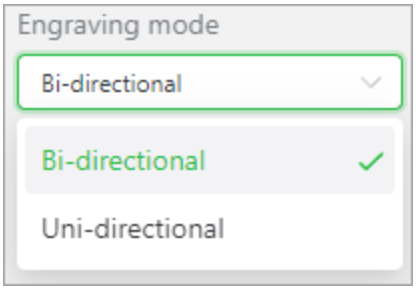
This parameter determines the resolution of the image to be engraved.





③ Engraving mode

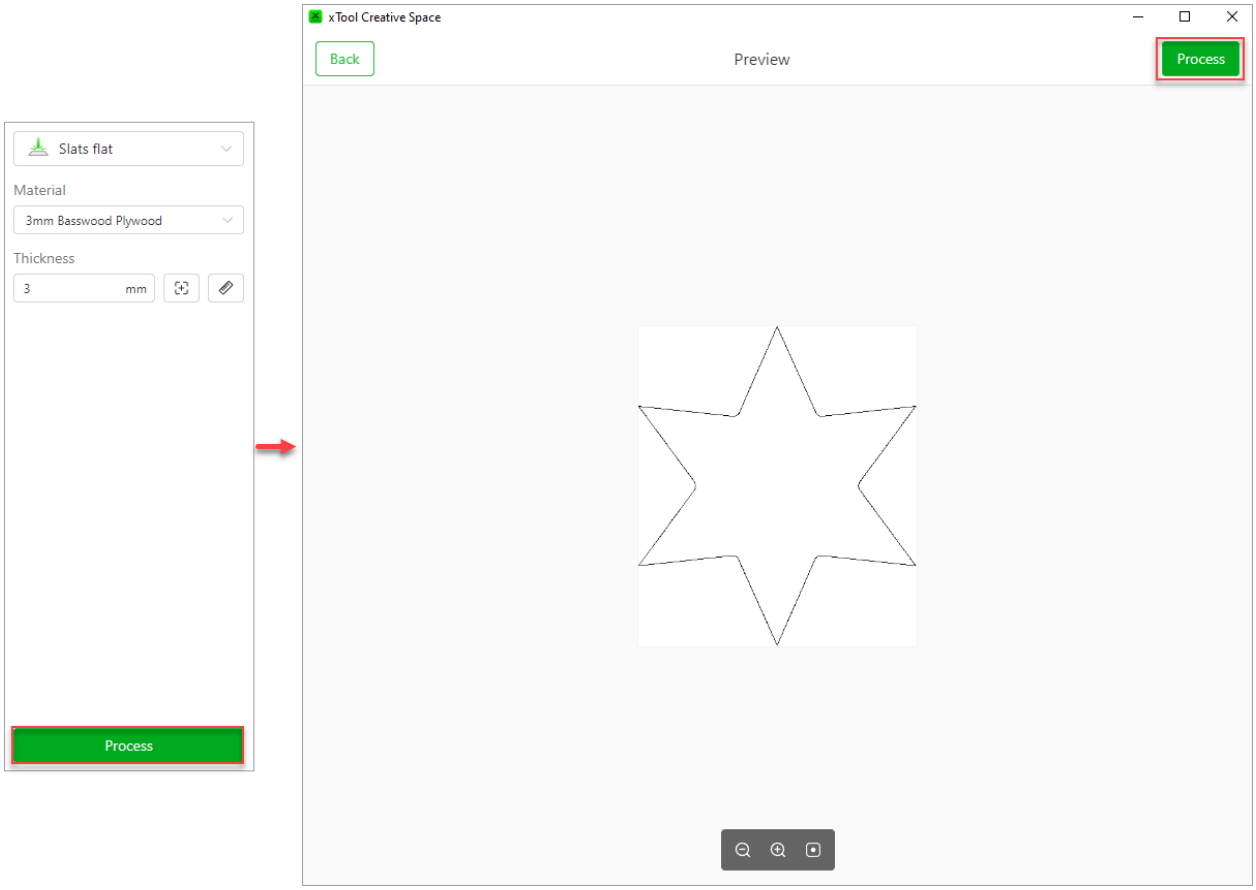
Sets the bi-directional or unidirectional engraving mode for bitmaps and filled vector paths



Start processing

(1) After setting the parameters, click Process.

The Preview window is displayed.



You can zoom in or out the object, or restore it to fit on screen during preview.

(2) Click Process in the upper right corner.

(3) Press the button on the device to start the processing.

You can also click Cancel to cancel the processing.

(4) Wait for the processing to complete.

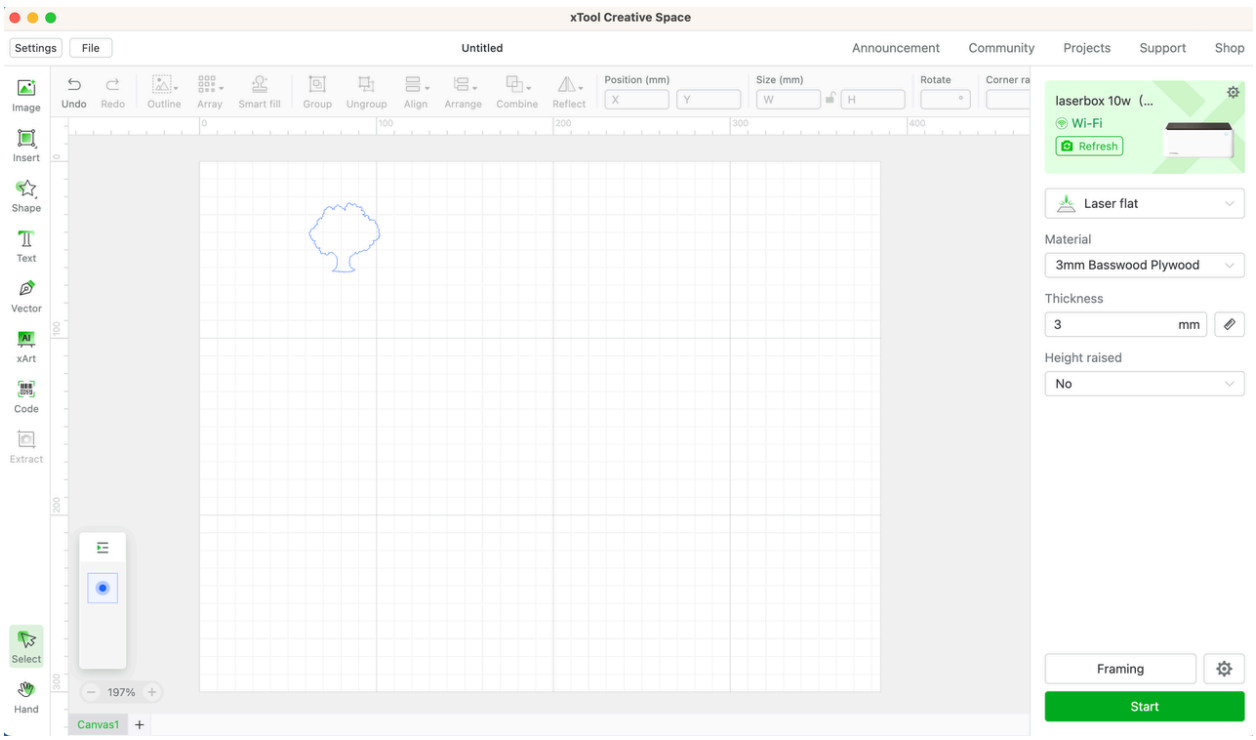
Material Test Array

The Material Test Array function in XCS. This efficient feature enables you to generate an automatic test array for your design patterns (available for both bitmap & vector files). This way, you can improve your material testing efficiency and have a more intuitive understanding of the effects of different parameters on your final product.

> To begin, make sure your machine is connected before running the material test array. This is important to validate the results for your specific device.

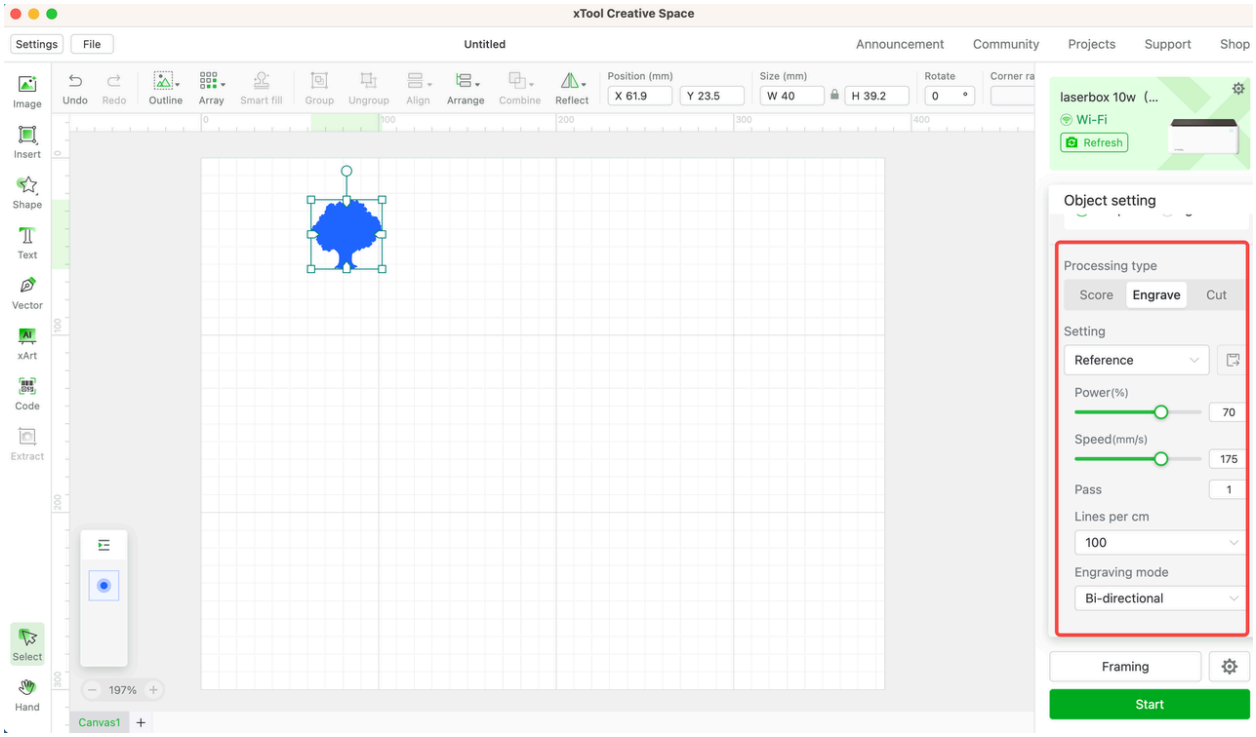
Step 1

Create an element or import a design file (Both vector and bitmap files are supported for testing).



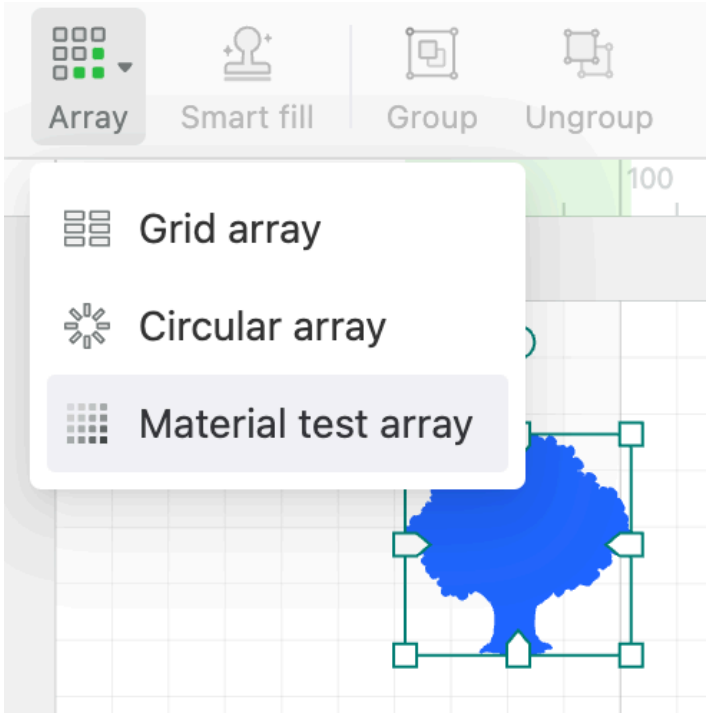
Step 2

Set the processing type and all the related parameters. These settings will become the default value of the material test array.



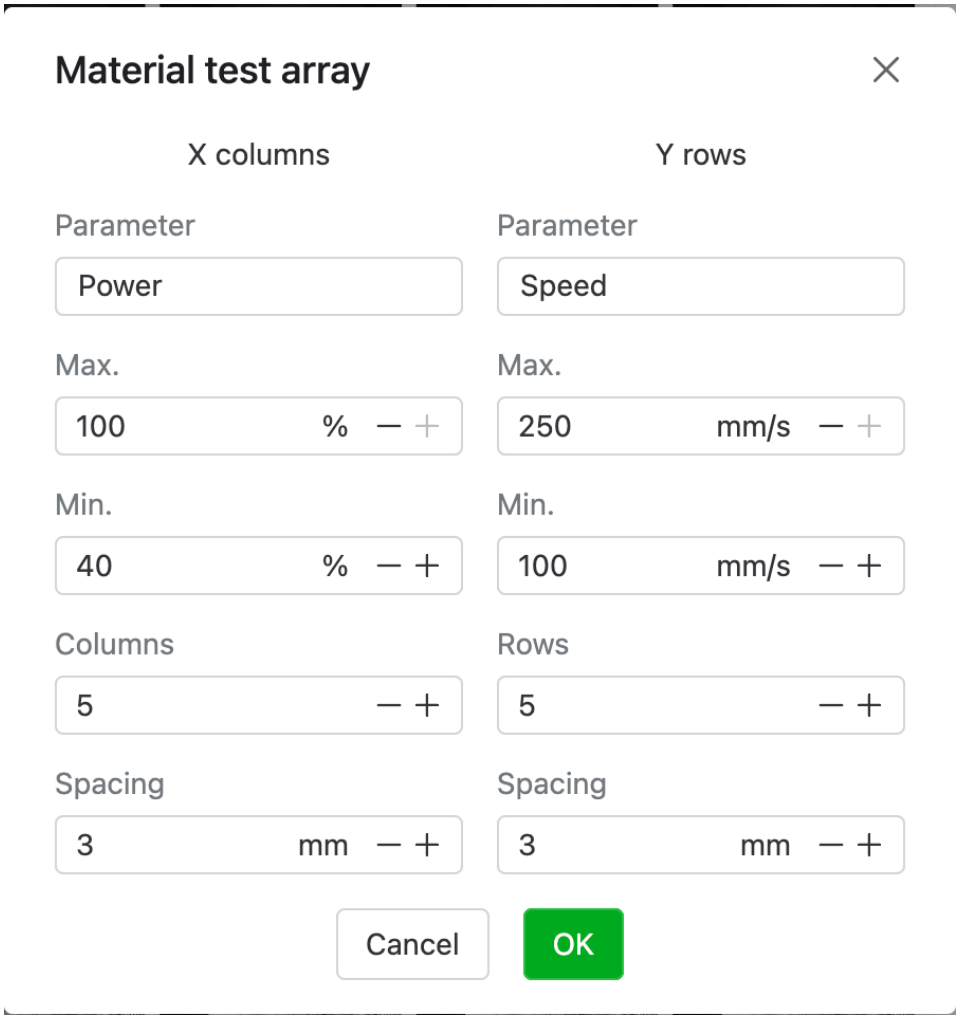
Step 3

Select the element, navigate to the top bar, and click “Array,” select "Material Test Array".



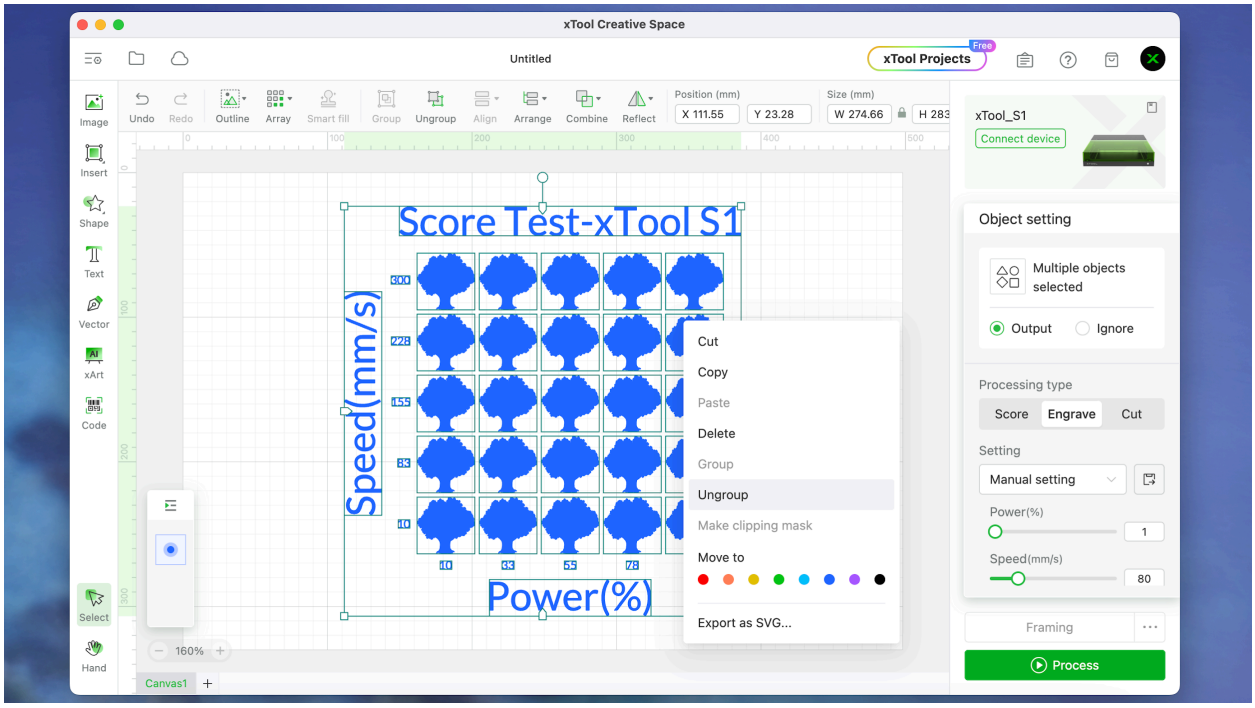
Next, you will see a pop-up setting panel as shown below. While the current table carries default values, feel free to change power and speed according to your project's needs.

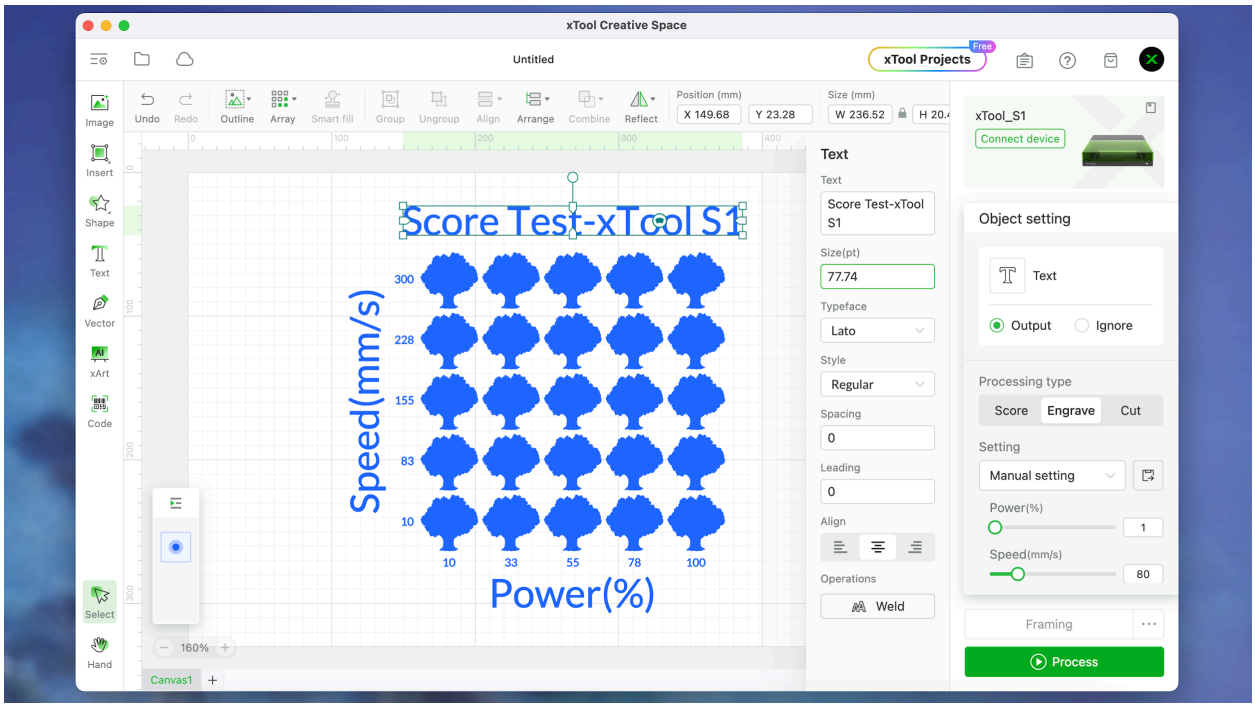
- The X columns represent power; here, you can set the maximum and minimum power, the number of columns in the array, and the spacing between columns.
- The Y rows represent speed, and similarly, you can set the maximum and minimum values, number of rows, and spacing between rows.



Step 4

- Click 'OK' to generate a test array on the canvas. This array is based on your parameter settings with an equal difference value for each element. The testing array is grouped automatically, but you can adjust each element individually by ungrouping it.


xTool Creative Space
Untitled
xTool Projects
Score Test-xTool S1
Speed(mm/s)
Power(%)
Cut
Copy
Paste
Delete
Group
Ungroup
Make clipping mask
Move to
Export as SVG...
Object setting
Multiple objects selected
Output
Ignore
Processing type
Score
Engrave
Cut
Setting
Manual setting
Power(%)
Speed(mm/s)
Framing
Process
xTool_S1
Connect device

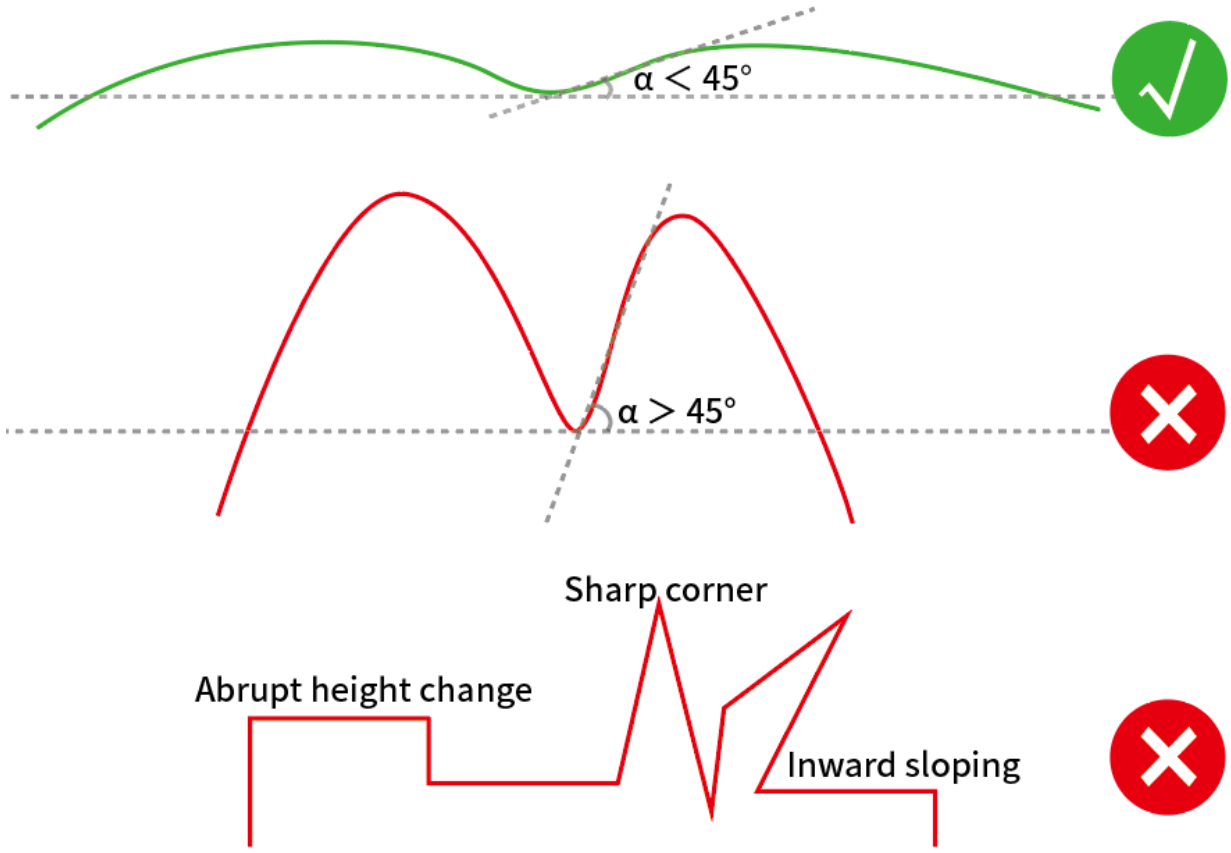

xTool Creative Space
Untitled
xTool Projects
Score Test-xTool S1
Speed(mm/s)
Power(%)
Text
Score Test-xTool S1
Size(pt)
77.74
Typeface
Lato
Style
Regular
Spacing
Leading
Align
Operations
Weld
Object setting
Output
Ignore
Processing type
Score
Engrave
Cut
Setting
Manual setting
Framing
Process
xTool_S1
Connect device

Process Materials with Curved Surfaces

You can use xTool P2 to process materials with curved surfaces.

1. Determine whether your material is supported.

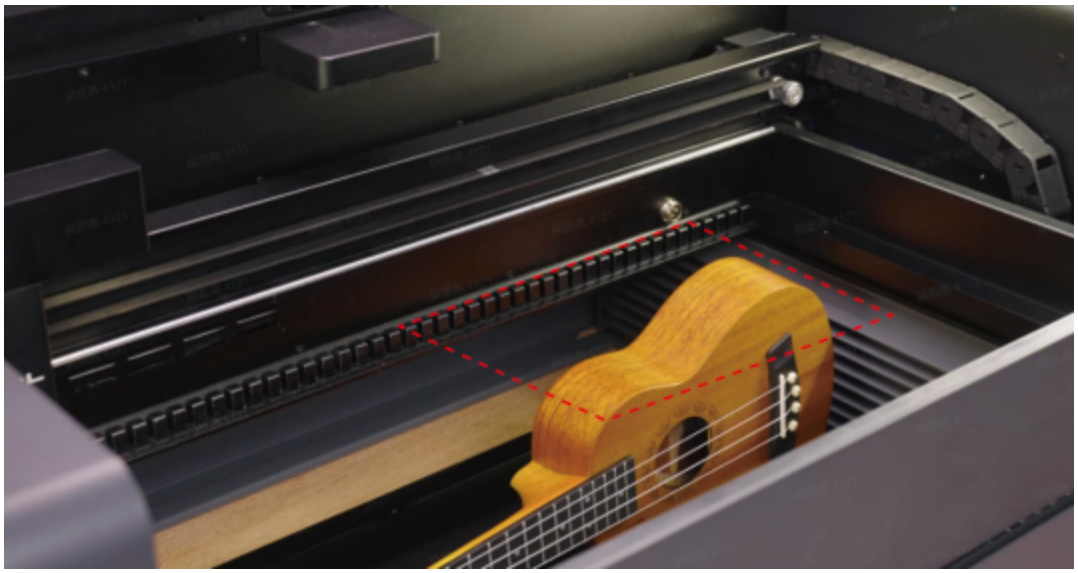
Only smooth surfaces with an angle lower than 45 degrees are supported.



2. Place your material

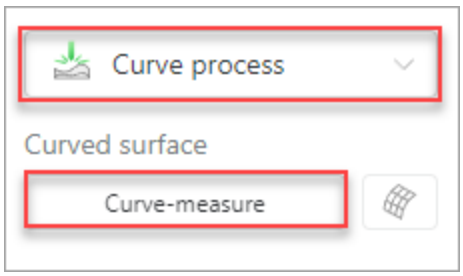
Remove the slats, and for thick materials, you may need to use the riser base.

Adjust the placement height of the material. The processing result is better when the material surface to be processed is close to the reference plane (slat plane).



3. Close the lid and do not open it during the measurement and processing.

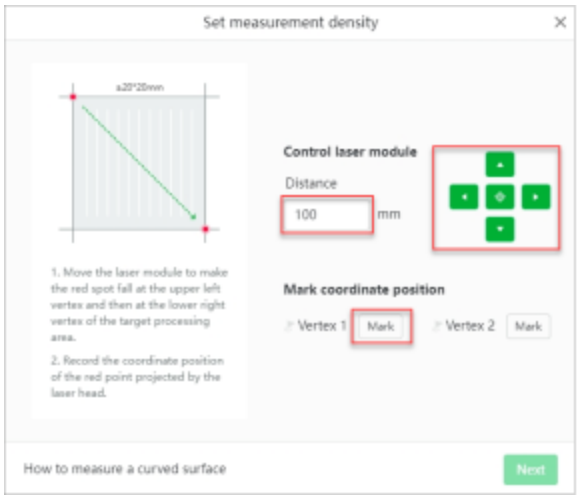
4. Select the Curve process mode, and click Curve-measure.

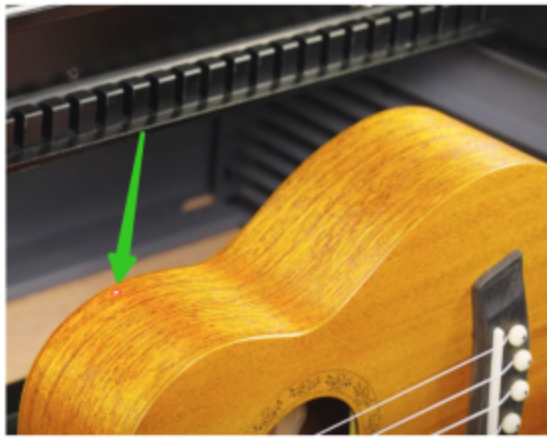


5. Set the area to be measured.

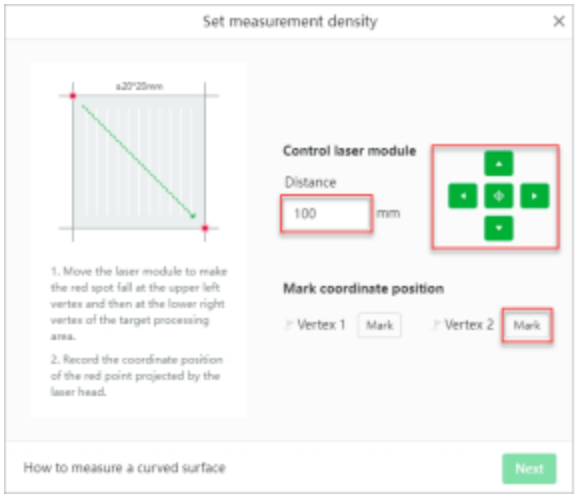
(1) Move the laser module, by clicking the arrow keys, to make the red spot fall at the upper left vertex of the area to be measured, and click Mark to mark vertex 1.

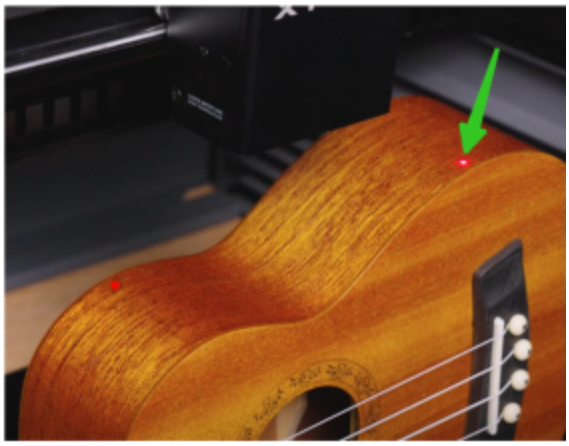
Tips: You can set the distance the laser module moves each time when you click an arrow key.



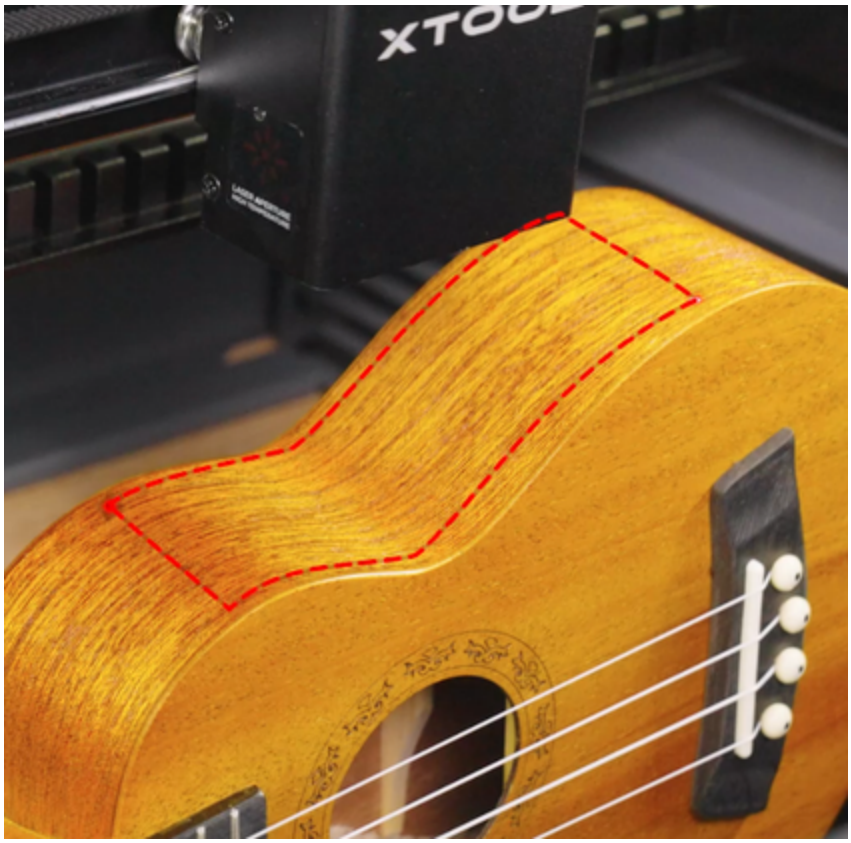


(2) Move the laser module to make the red spot falls at the lower right vertex, and click Mark to mark vertex 2.



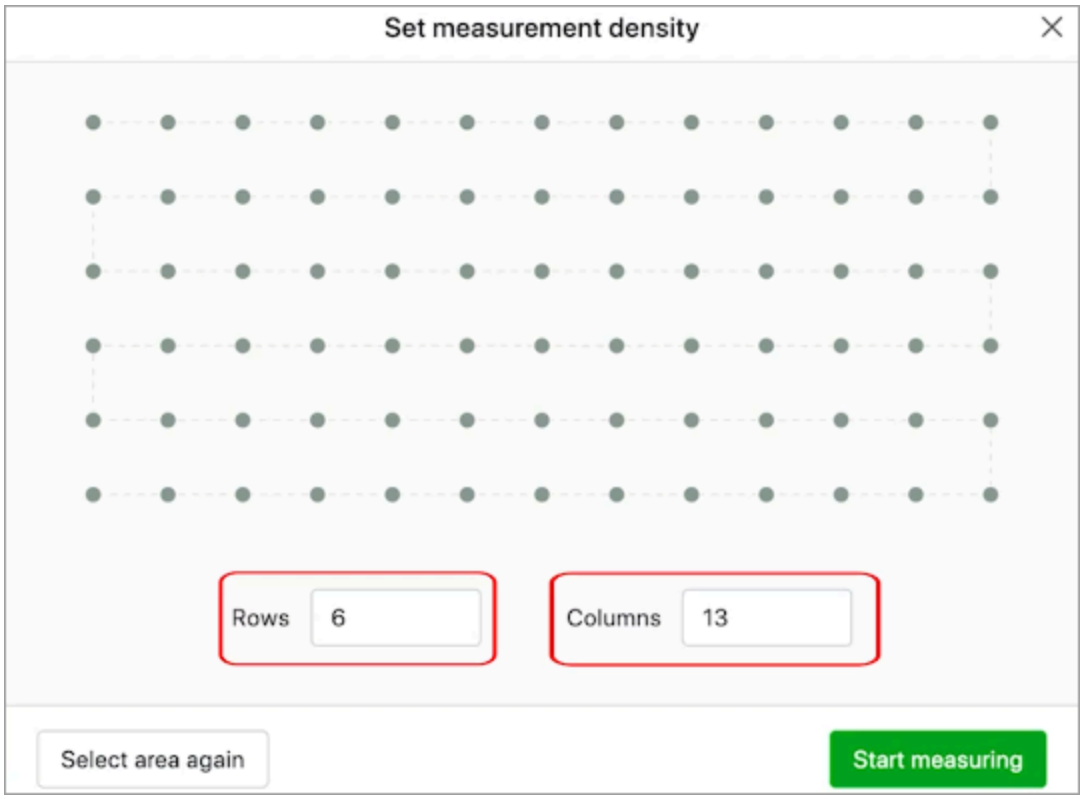


XCS will measure the area you selected.

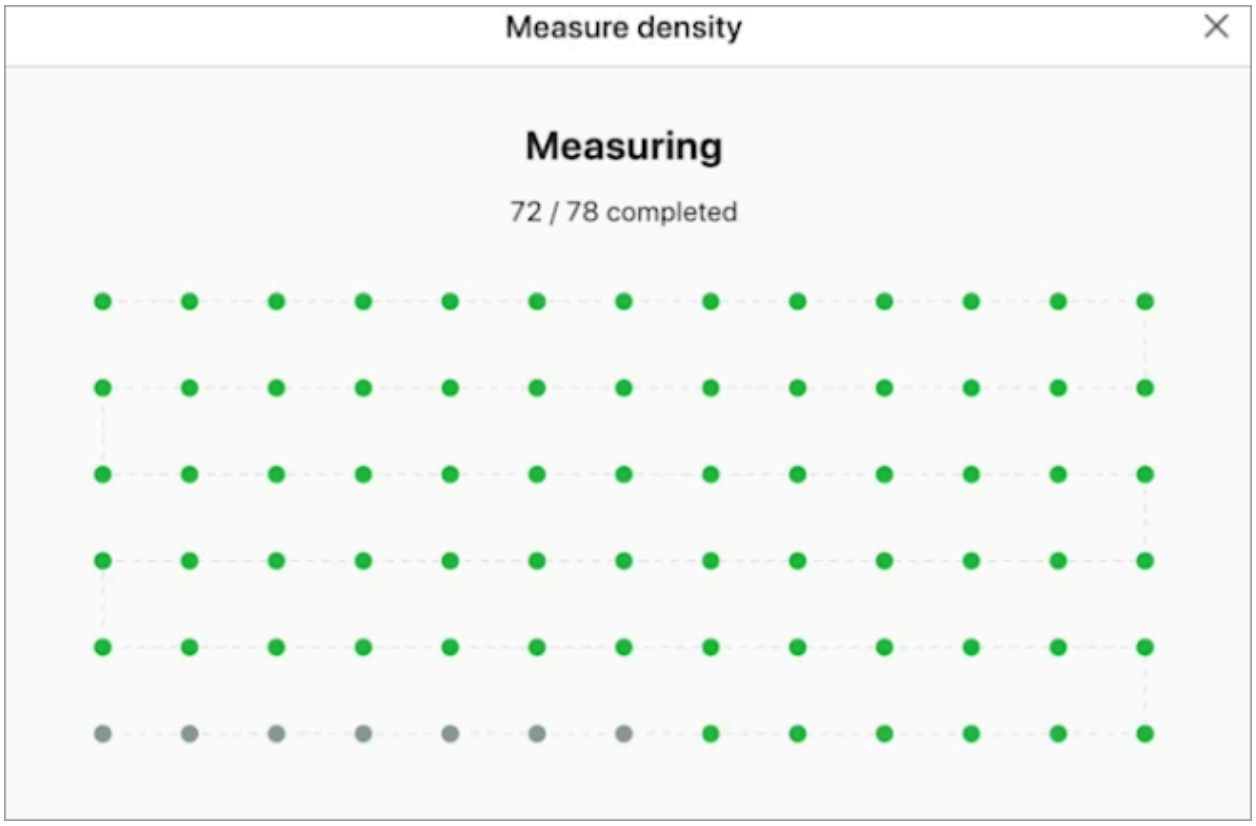


6. Set the measurement density.

A recommended density is provided based on the size of the area. You can modify it as required. The higher the density, the more precise the model, and the longer the measurement time.

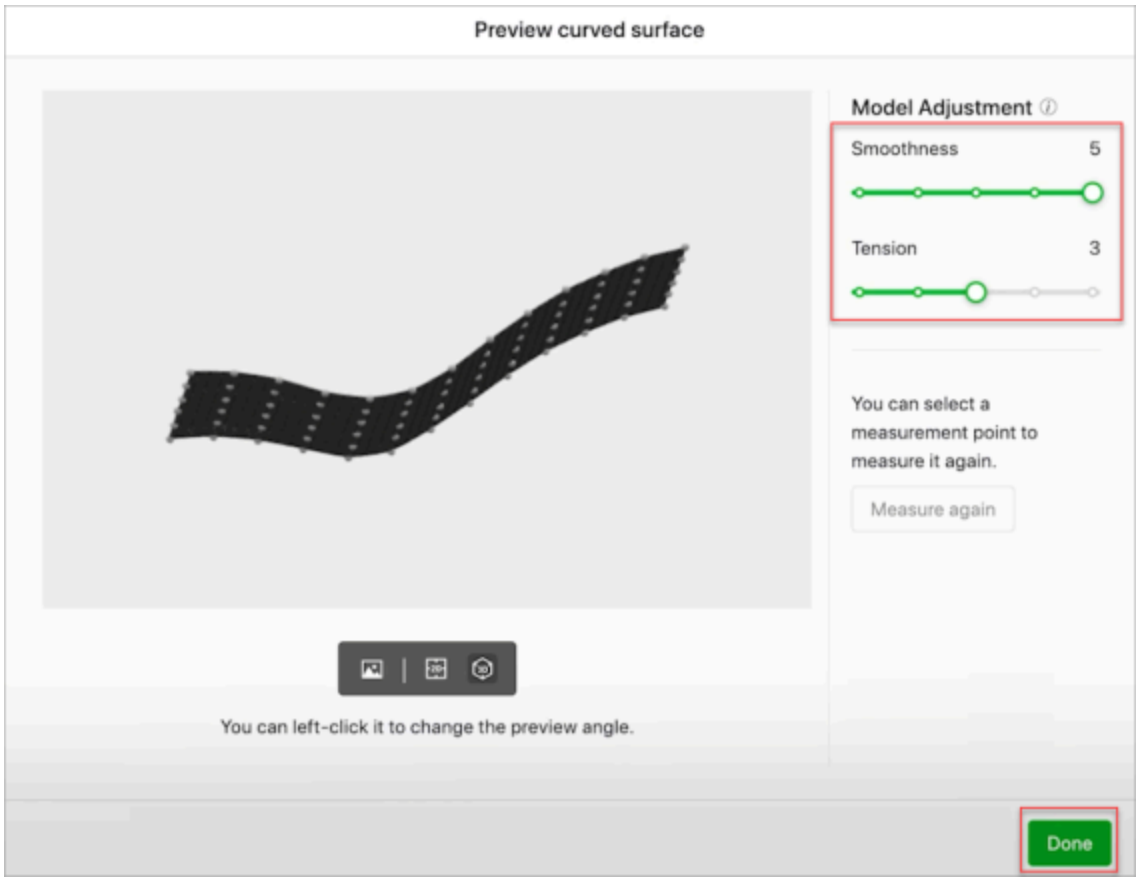


Click Start measuring. XCS starts to measure the area and you can see the measurement progress.



7. Adjust the model generated, and click Done to save the model.

After the measurement is complete, XCS generates a model. You can hold down the left mouse key to change the viewing angle, and you can adjust it by setting its smoothness and tension.



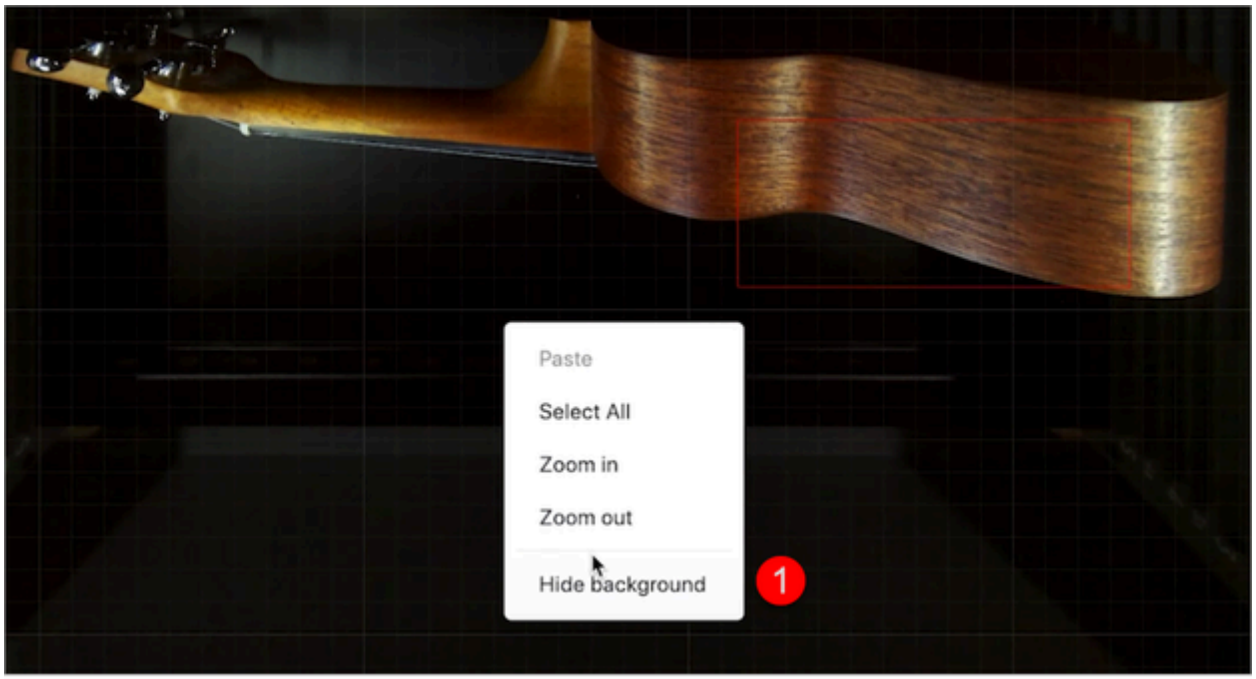
8. Set the position of and parameters for the object to be processed.

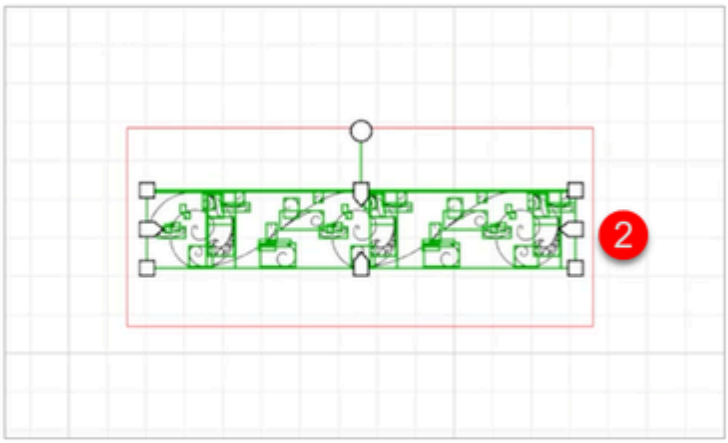
Note: In this mode, the flat view may cause perceptual biases. Do not complete the alignment based on the image captured. You can hide the background of the canvas.

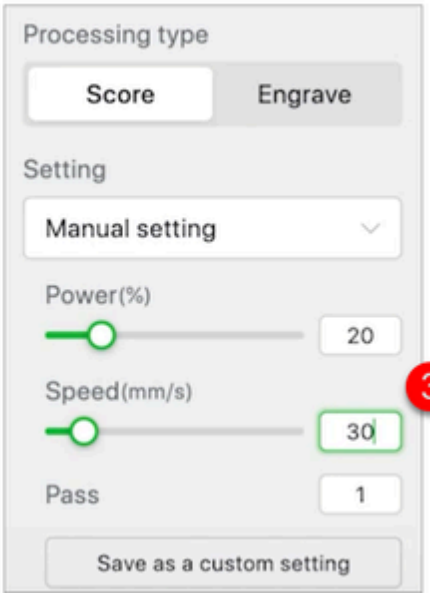
(1) Design or import the object to be processed.

(2) Place the object inside the area to be processed.

(3) Set the parameters.


Paste
Select All
Zoom in
Zoom out
Hide background
1


2


Processing type
Score
Engrave
Setting
Manual setting
Power(%)
20
Speed(mm/s)
30
3
Pass
1
Save as a custom setting

9. Click Process and complete the processing as prompted.

This is what you get.